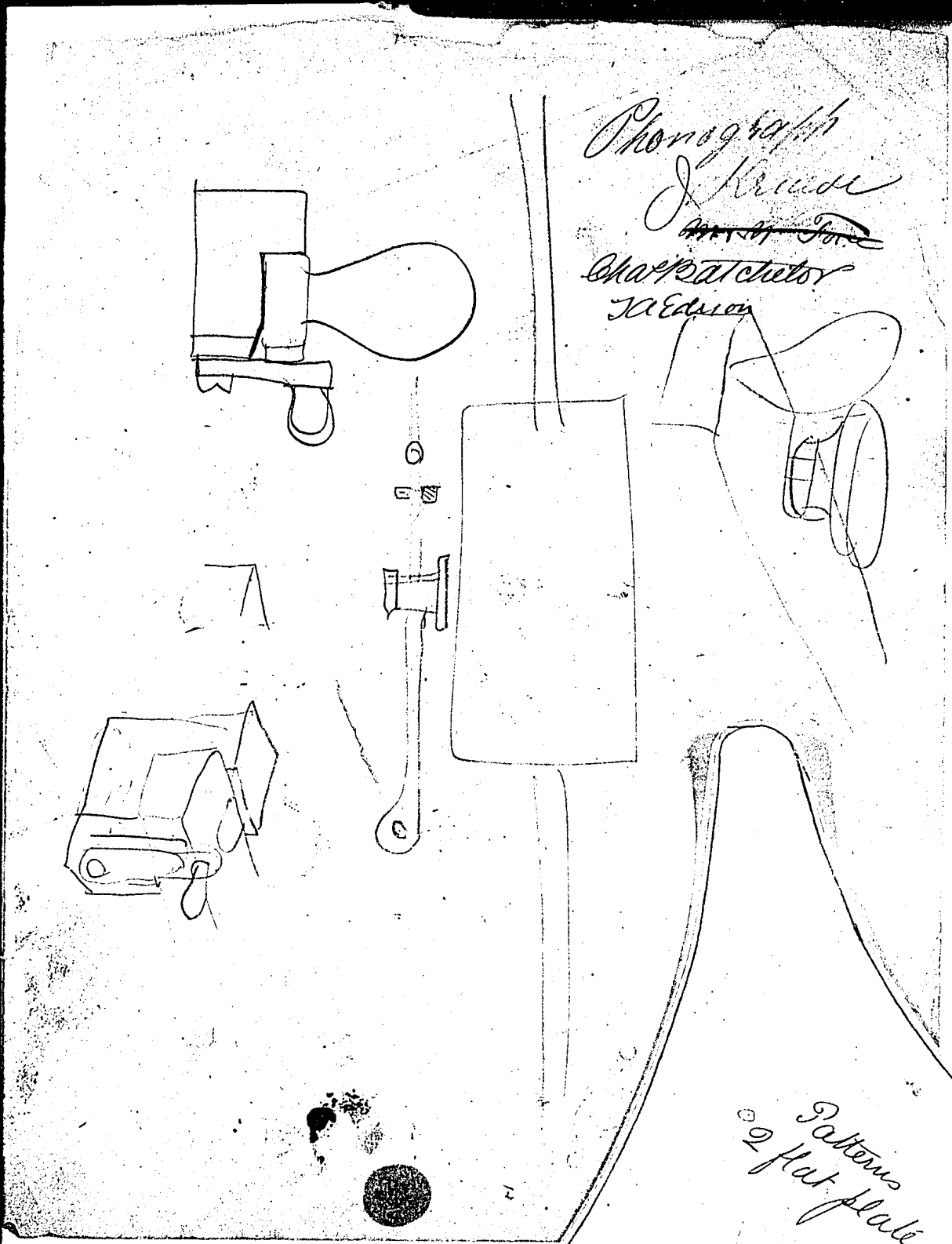
Notebook, Volume 17

This volume covers the period September 1877-November 1878. The notes and drawings are by Edison, Charles Batchelor, and John Kruesi, and they all relate to the phonograph. The volume consists of 187 numbered, unbound leaves.

Missing pages: 2, 7, 8, 9, 16, 28, 32, 48, 56, 59, 96, 103, 150.

Pages [7 or 8?], 9, 28, 32, 48, 96, and 150 were found, microfilmed in a supplement, and included here.

Facsimiles of some of the pages missing from this volume may appear in NS-77-003 and NS-78-007, Unbound Notes and Drawings.



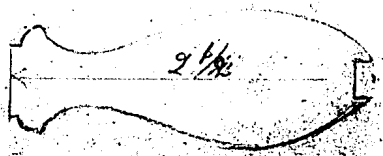
Patterns
2 Hat plates 1/4 thick

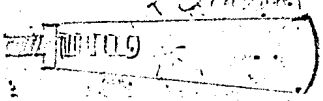
1

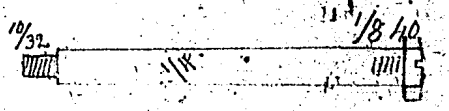
3

Chas Batchelor
J. Kincaid
G. B. Cannon
M. M. Force

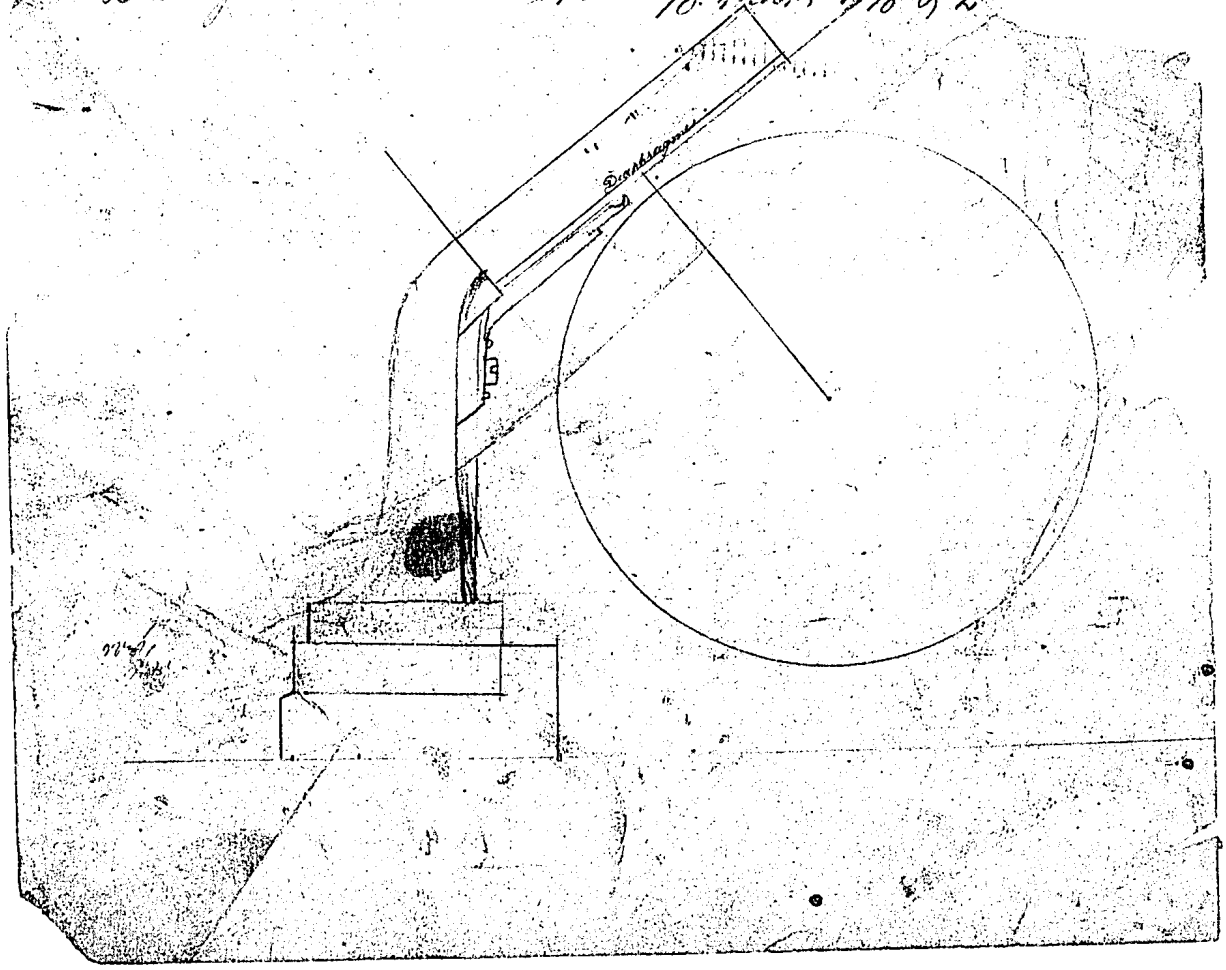
2 Rubbers & 1 Sub-knee

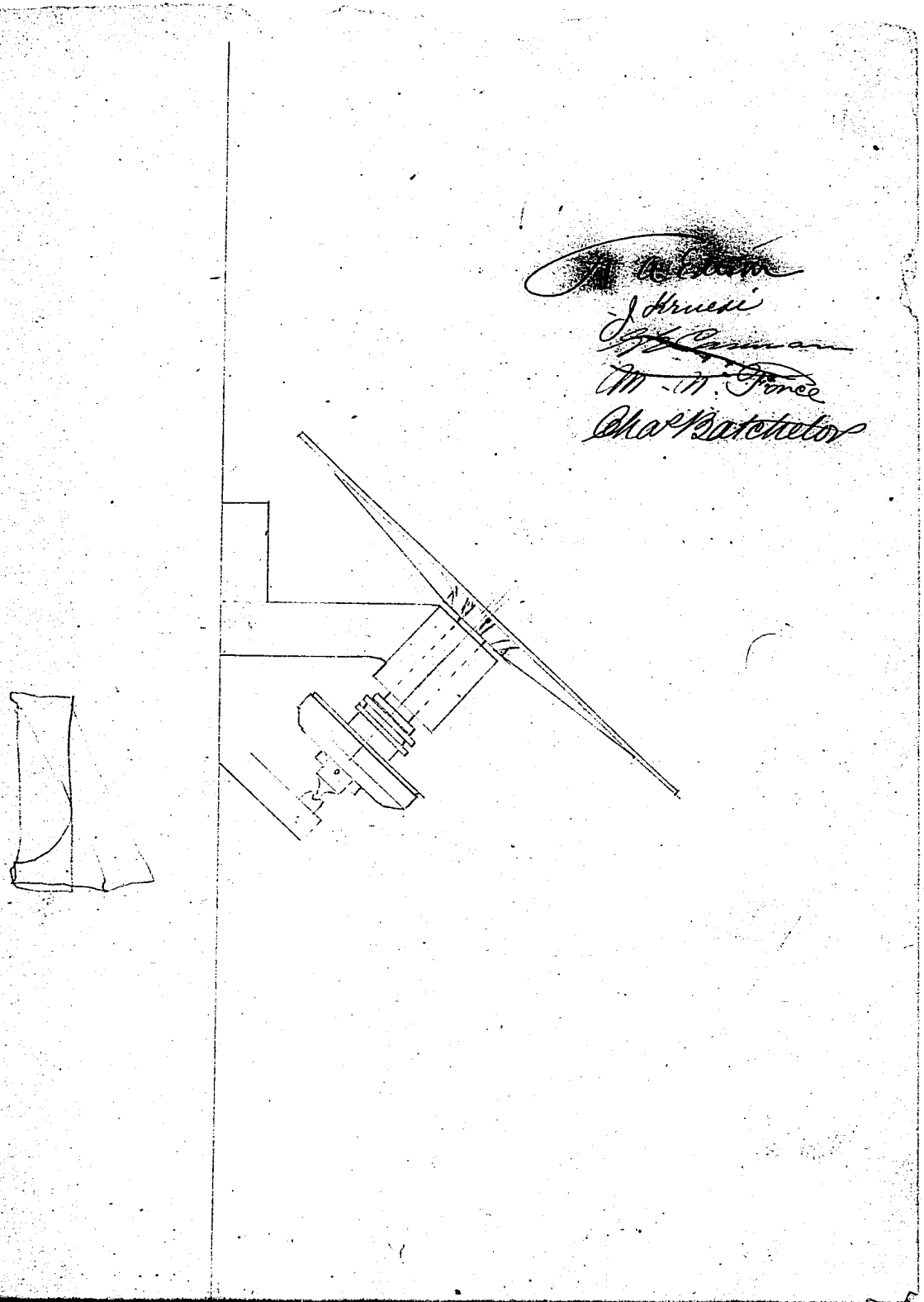




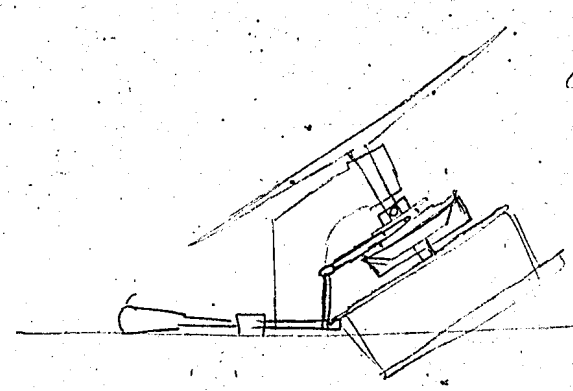


Cylinder 4 in Diam. 8 in long
" Bottoms 3/8 " 3/8 Thick
Axles 1 in . 27 1/2 long
Arm 3/8 Thick 1 1/2 wide 8 3/4 "
Crank Brtwn to Ctrs. 1 3/4
Handle 2 3/4 long
Bearings bottom to cent. 2 5/8 3/8 Thick 1 3/8 & 2

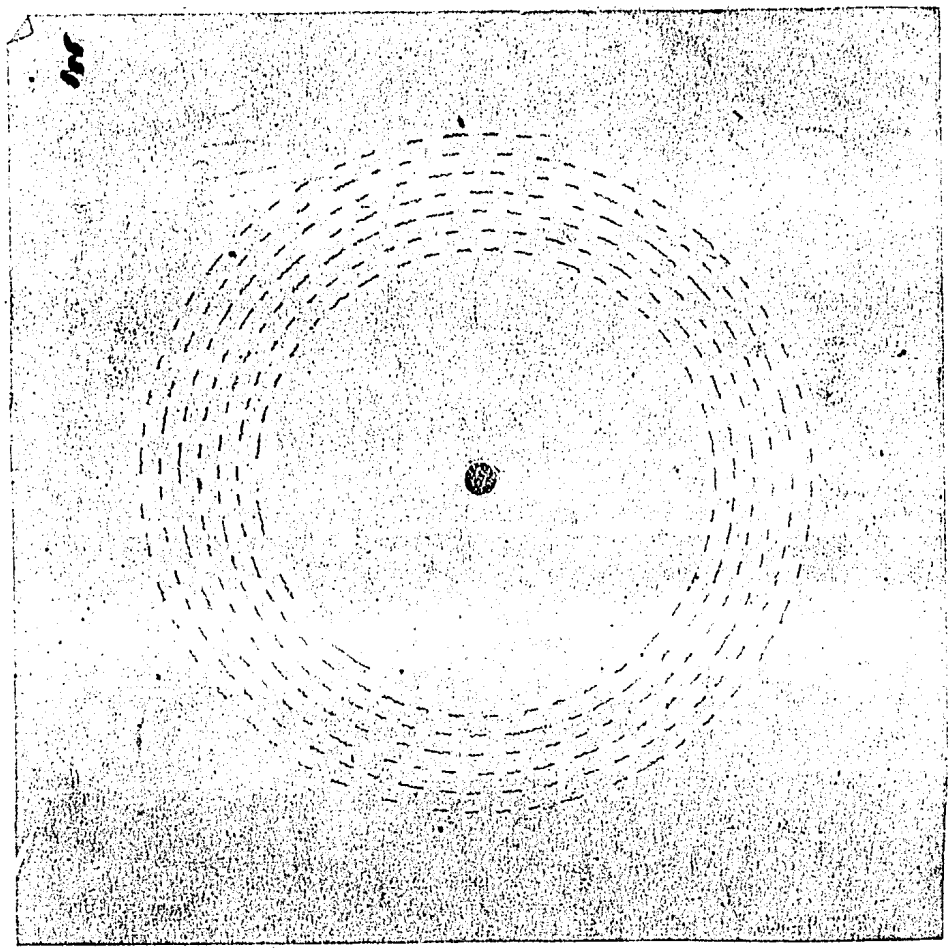


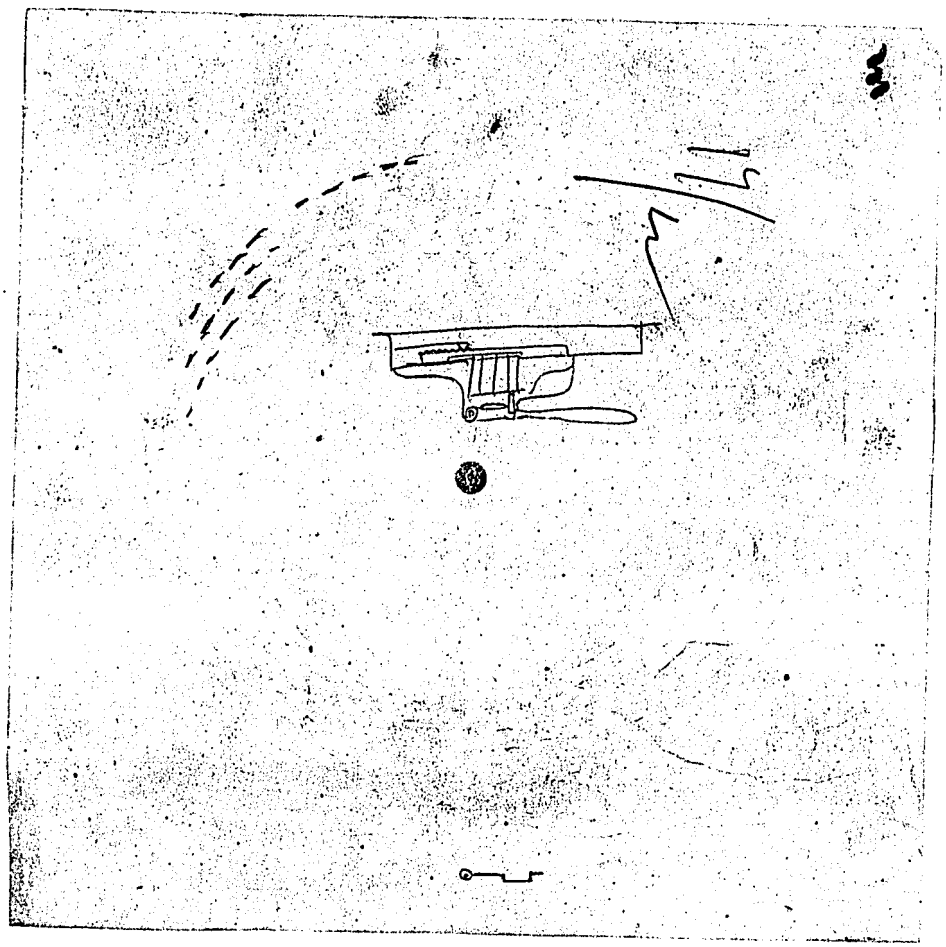


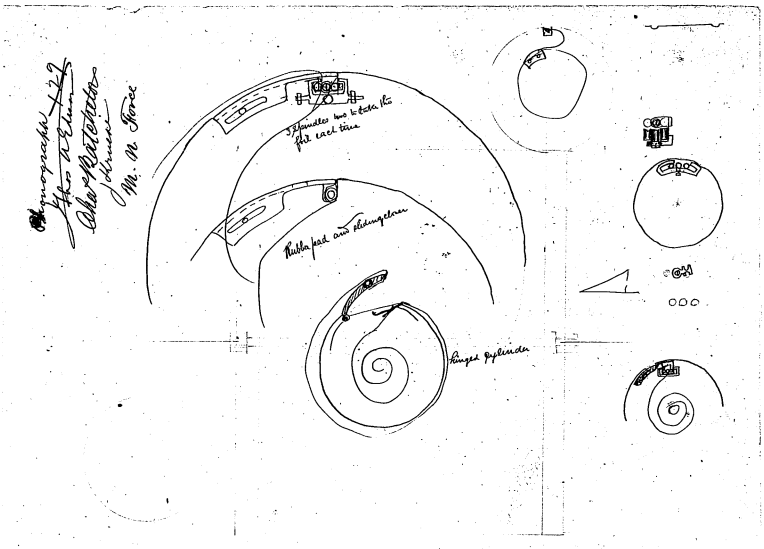
6

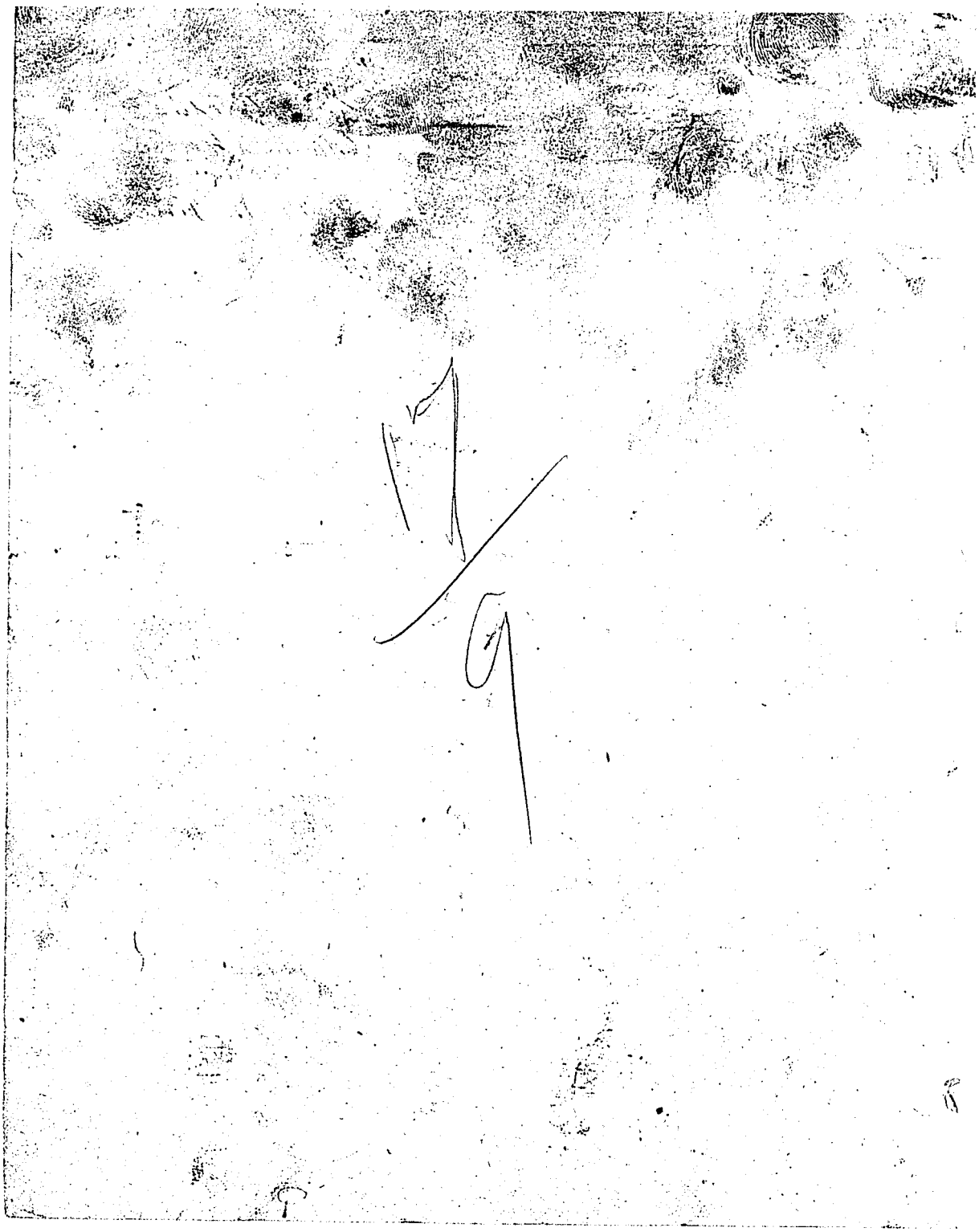


17/4






Rubber pad and adjustment
Finger depression



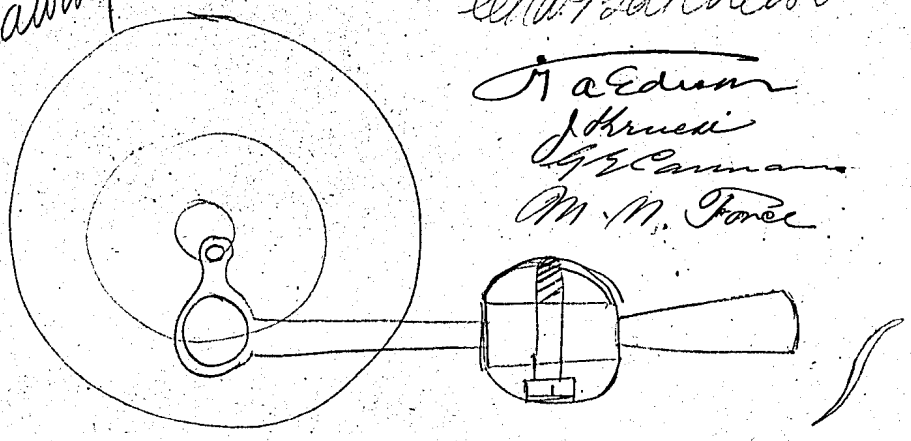
Duplicating photographic records

This frame 4x5 in. is 1/2 and or 1 inch above the
the foil is grimmed to the ground plate
Charles Peterson
M. N. Forde
with this frame is a plate
7th Edition
with a funnel shaped orifice & into this
pours the wet plaster & after it has
its turned upwards the foil is taken from it
& it then placed under a press whose
piston is provided with a plate similar,
size to the sheet the plate is of polished metal,
four pins are in the frame holding the parts
these are the registering pins into which the
paper frame having the foil to be indented
is placed, a sheet of green paper foil or
other non fibrous material is laid over the
foil & the press plate brought down
& forces the foil into the raised dots of the
pins thus taking an exact copy
the other plan is to electrotype on
Electrotyped plate of Copper for the
pins

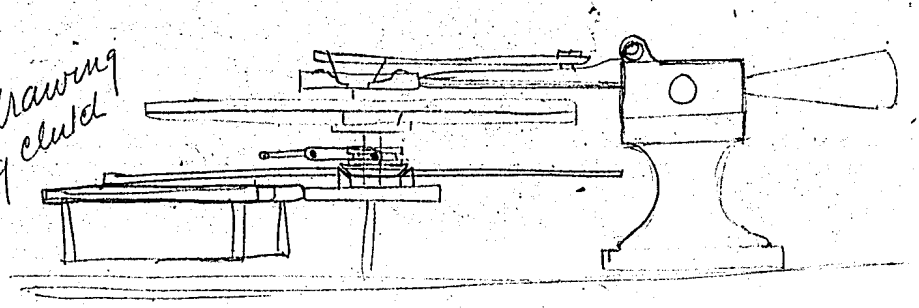
10

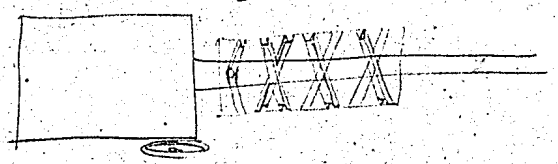
Make drawing -

Adm Batcheller
Faeder
J Kruesi
G E Cannon
M. M. Force



Make drawing showing cleat





Sept 7 1877

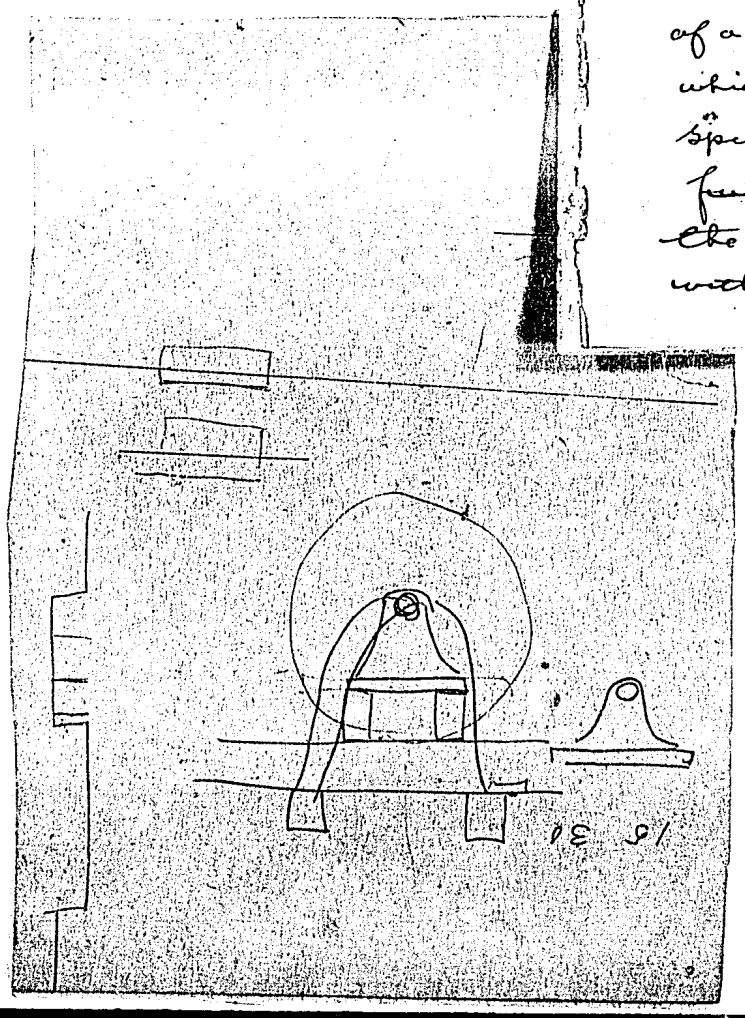
T A Edison

G E Gouraud
M M Fisher
J Adriance
Chas Batchelor

Edison Phonograph.

An apparatus for recording automatically the human voice. and reproducing the same at any future period.

Mr Edison the Electrician has not only succeeded in producing a perfect articulating telephone, which Comparative tests, practical upon the lines of the Western Union Telegraph Co. have proved to be far superior and much more ingenious than the telephone of Bell. ~~but has actually~~ and has been adapted ~~upon~~ for use upon the 1300 private wires operated by Gold & Stock Telegraph Company of New York but has gone into a new and entirely unexplored field of acoustics which is nothing less than an attempt to record automatically the speech of a very rapid Speaker upon paper; from which by ~~means~~ he reproduces the same Speech immediately or years afterwards ~~at any future~~ preserving the characteristics of the speakers voice so that persons familiar with it would at once recognize it

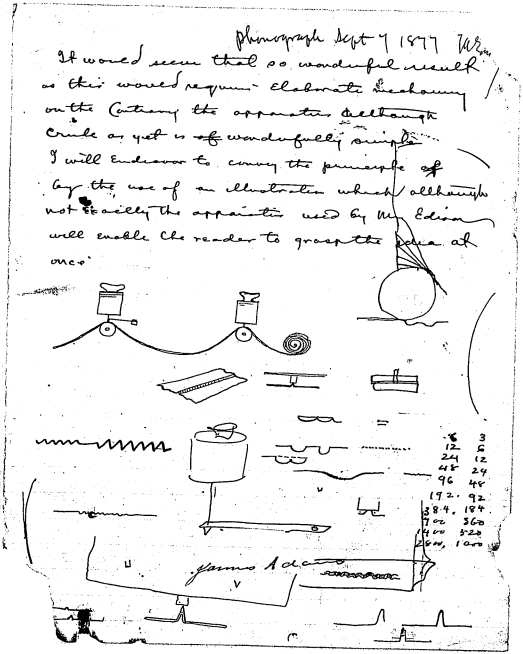


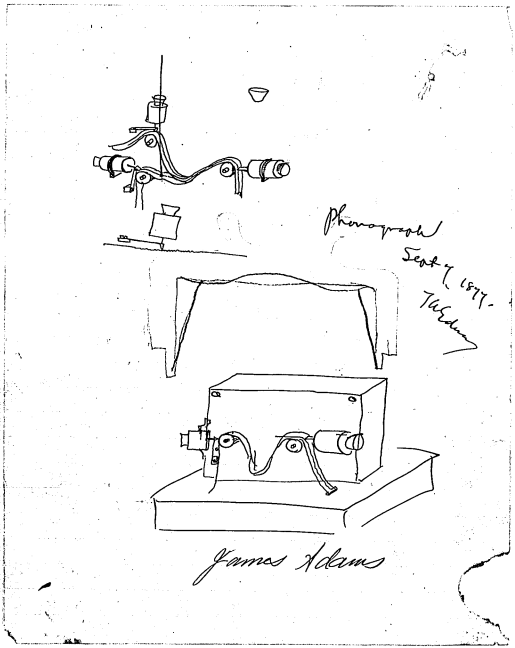
13

12

Phonograph Sept 7 1877 WS

It would seem that so wonderful a result as this would require elaborate mechanism on the part of the operator although the Crude as yet is wonderfully simple. I will endeavor to convey the principle of by the use of an illustration which although not exactly the apparatus used by Mr Edison will enable the reader to grasp the idea at once.

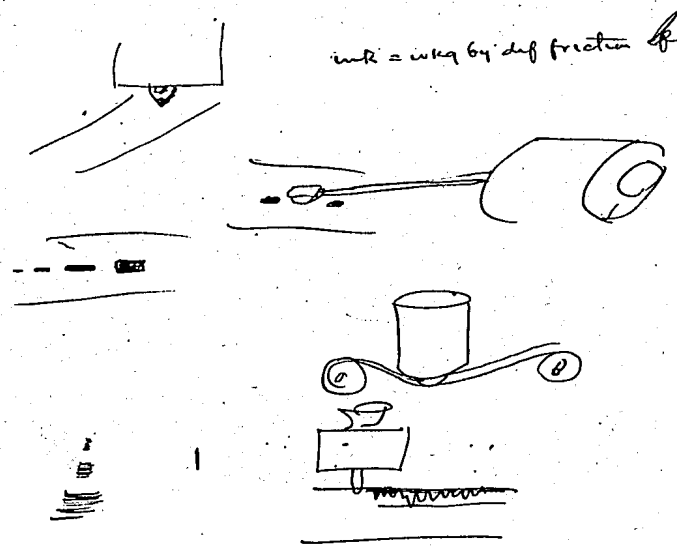


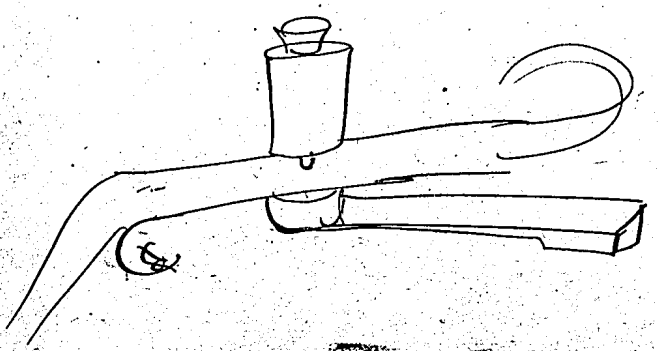


NOT NUMBERED

Phonograph

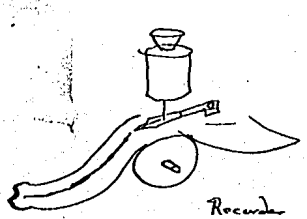
September 7 1877
J A Edison
Charles Batchelor
James Adams





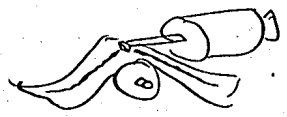
Phonograph

September 7. 1877
J.A.Edison
Chas Batchelor
James Adams.



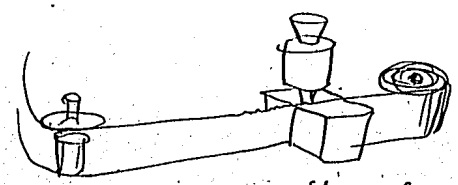
Recorder

Rough paper - blacked down with fibre or blacked down with a crystallized salt such as PbCl.



Phonogram on a spring on diaphragm makes light & heavy mark which have more or less lubrication
Receiver worked by difference of friction.

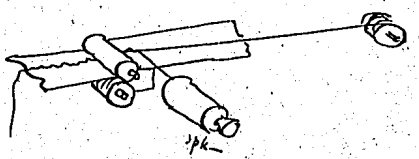
Receiver worked by difference of friction in the ink.



Edge embossed

Emboss by

Emboss or Example from the previous two



spool (tin).

Spk

15

Photographs

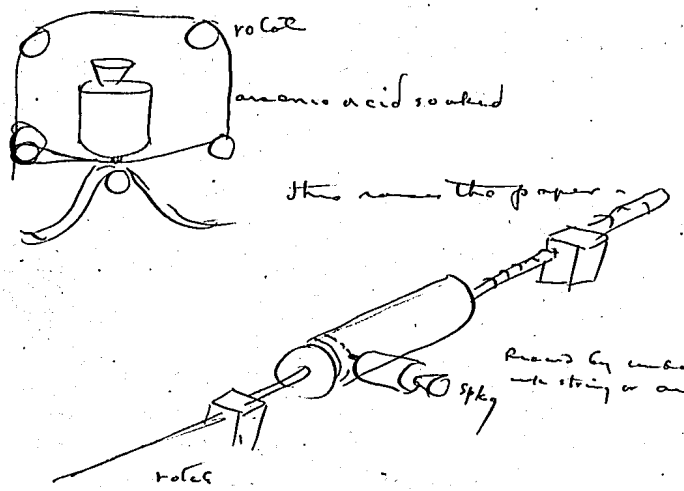
Sept 21 1877

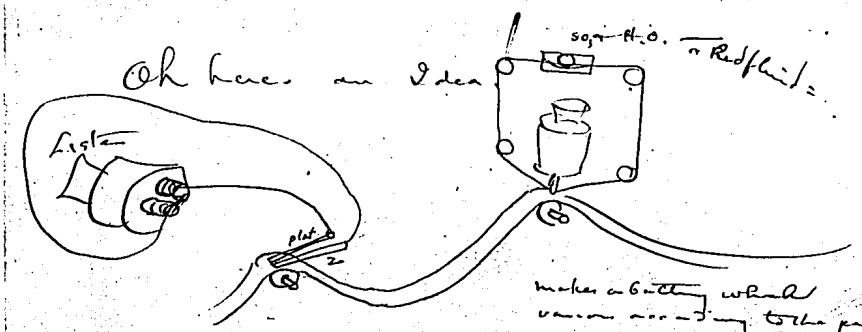
Ja Edison

Charbatchen

Johnson

~~Wm. Force~~





17

Nov 23 1877

Phonograph

Chas Batchelor J A Ennis
J Krusi
James Adams
E E Cannon
M M Force

I propose to apply the phonograph principle to make Doll speak sing Cry & make various Sounds also apply it to all kinds of Toys such as Dogs Animals, fowls reptiles human figures to cause them to make Various Sounds to Illustrate Toy Engines Machines &c Exhaust & whistle &c to record reproduce from sheets music both orchestral instrumental & vocal the idea being to use a plate machine with perfect equalization & stamp the music out in a press from a die or punch previously prepared by Cutting in steel or from an Electrotype or Cast from the original or the foil = A family may have one machine & 1000 sheets of the music thus giving Endless amusement I also propose to make toy music boxes & toy talking boxes playing several tunes & speaking several sentences also to Clocks

18

(2) Phonograph Nov 23 1877

and watches for calling out the time of day or ~~work~~ waking a person ~~for~~ Chas Batchelder
for advertisement rotated continuously
by clockwork to excite attention of
passers by. To prepare to make it loud
by building up or enlargening the
original indentation or indentation
by laying them out & cutting in steel
or building up by Electrolysis, &
other ways. The method for preparing
a wheel or plate for toys is by stamping
or casting the same. If a wheel a band
is stamped & put around it.

It may replace a man on a telephone.
~~And a telephone may~~ at either end
by hooking the Telephone to the
speaking tube or the receiving magnet
may be connected to ~~the~~ clock
the ~~can~~ diaphragm. with toys or
apparatus in which only reproduction
of sound the characters may both
be indented or raised.

To Commissioner of Patents

19

(3) Phonographs

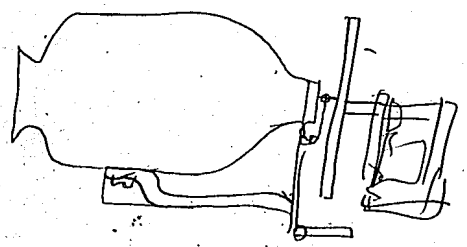
Nov 23 '87

Tuesday

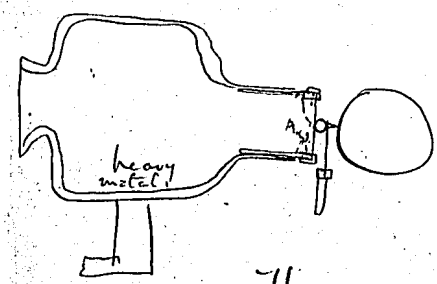
1. In taking down lectures my voice is unpracticable for the witness to speak right into the tube

2. I propose to arrange a large chamber of metal

Charles Tainter
James Adams
J Briceni
~~G E Cameron~~
~~Mr Force~~



or to shew the principle better



This is

This large chamber will respond more powerfully to a voice at a distance than a small chamber.

20

Phonograph

Dec 3, 1877

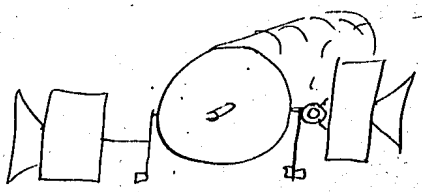
T A Edison

Chas Batchelor

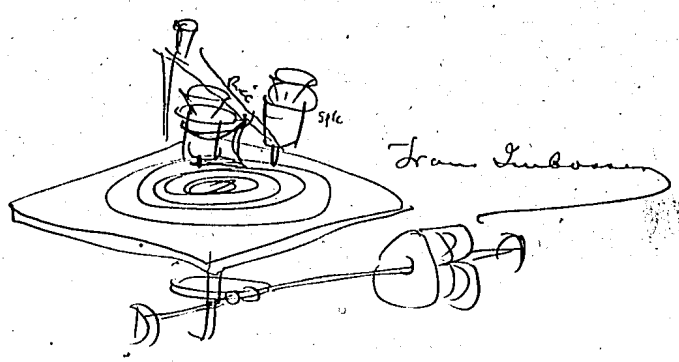
James Adams

Have tried lot of experiments with different thickness of tin foil. to the best material yet for recording.

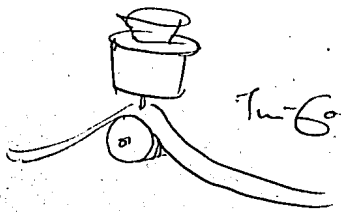
W H Force



— This is better than drawing =

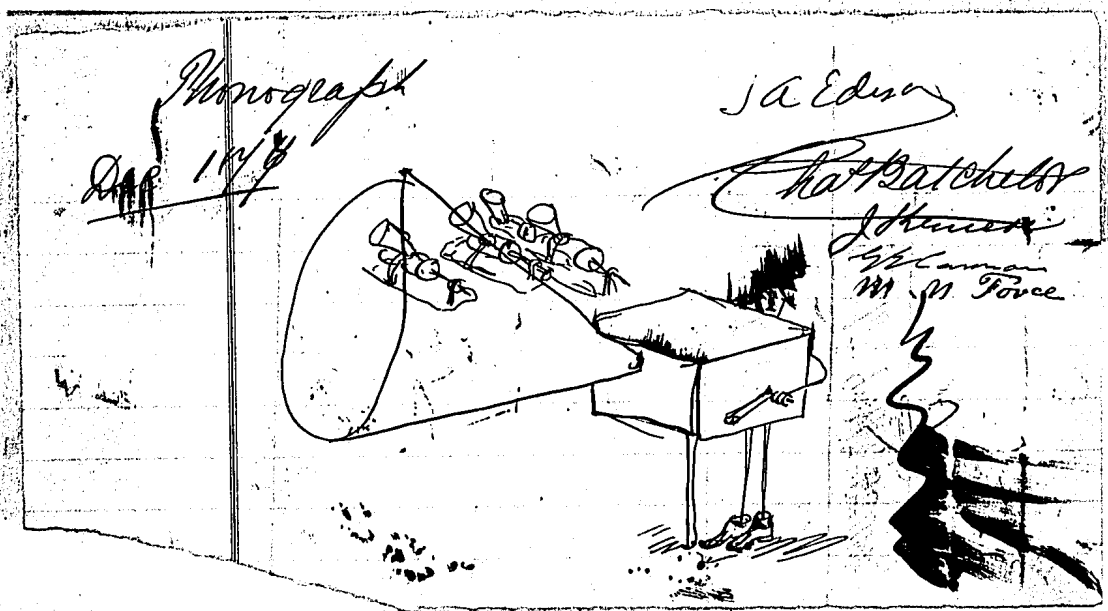


From Embossing



The foil paper (12) Piasava backed with tin foil =

22



Phonograph

Dec 1877

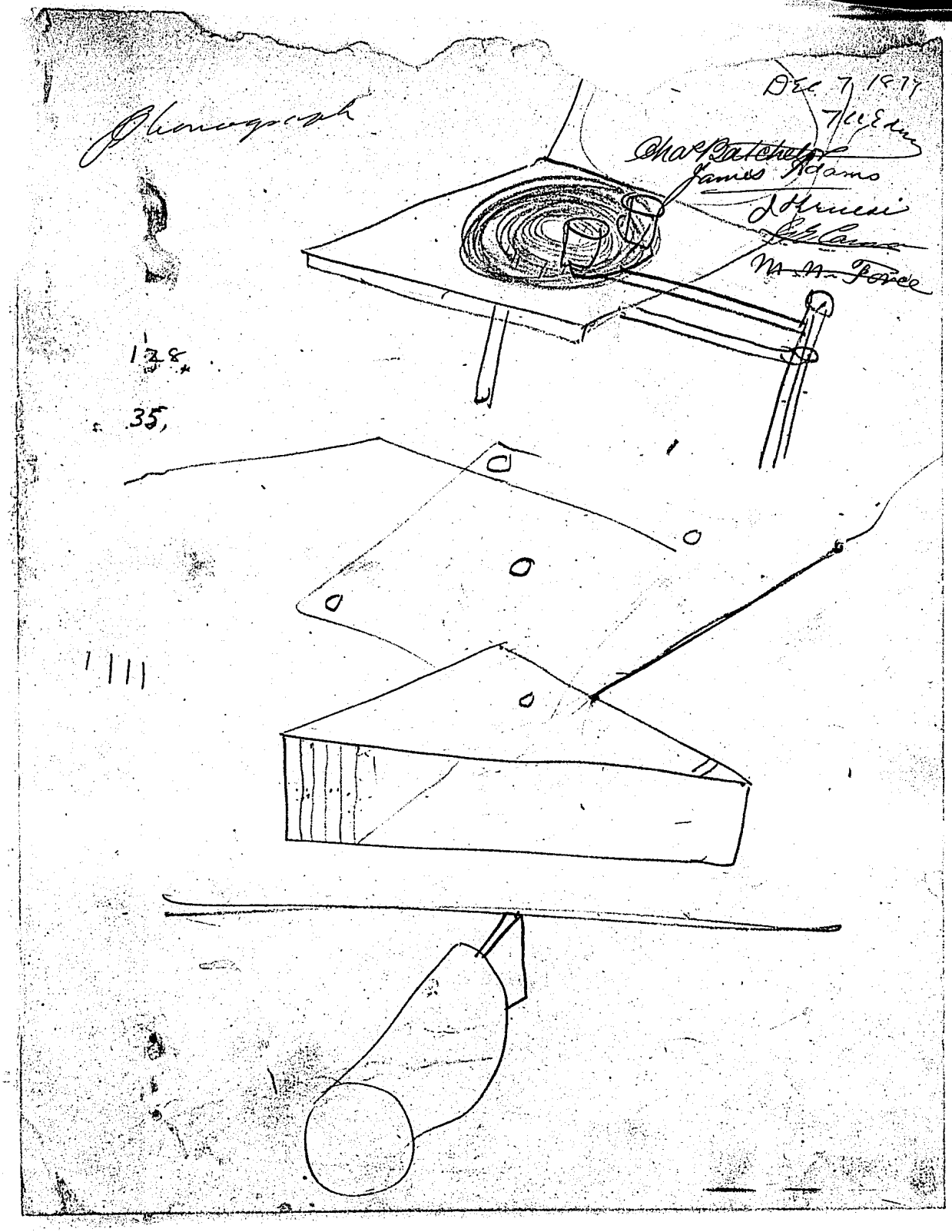
J A Edison

Chas Batchelor

J Adams

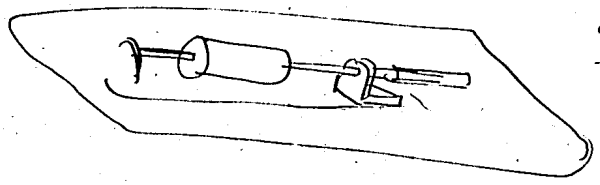
W H Force

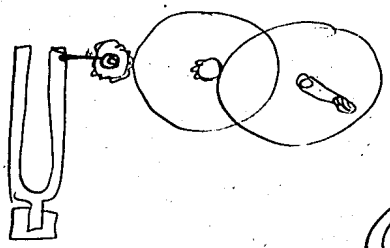
21


Dec 7 1977
Chas Batchelor
James Adams
1/2 8
.35

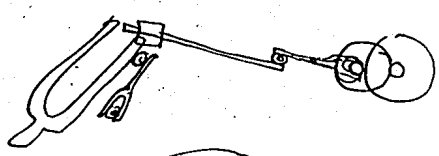
Phonograph

Dec 10 1877
J.O. Edison
J. Kruesi
Chas Batchelor
M. M. Jones

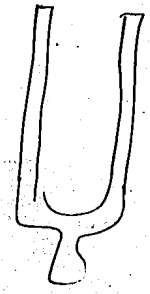


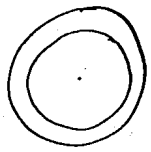


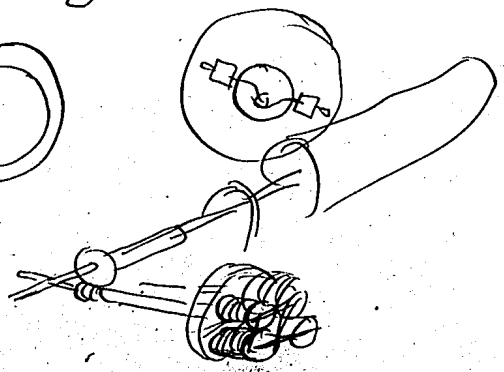
Thomas



15 30 18.00.







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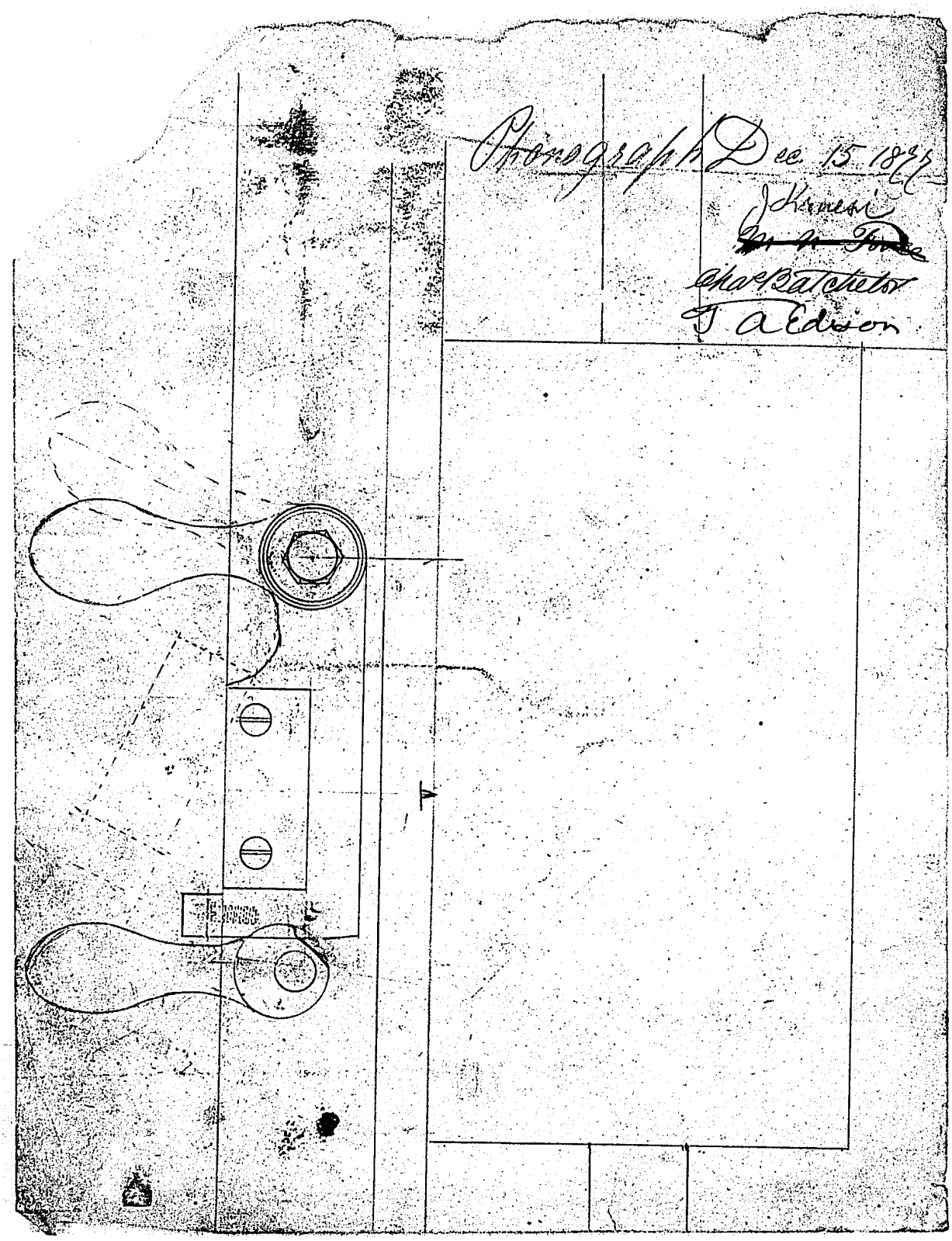
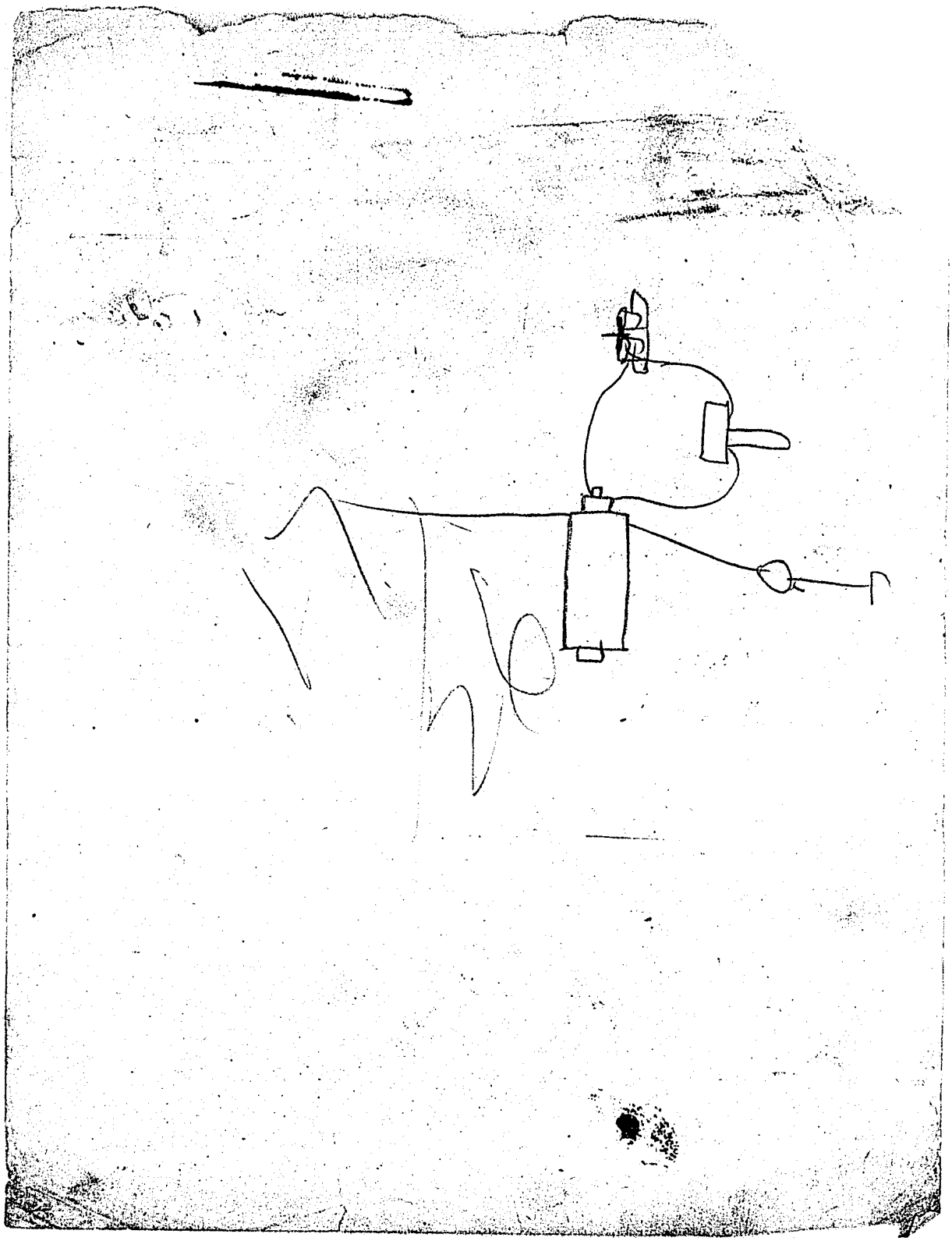
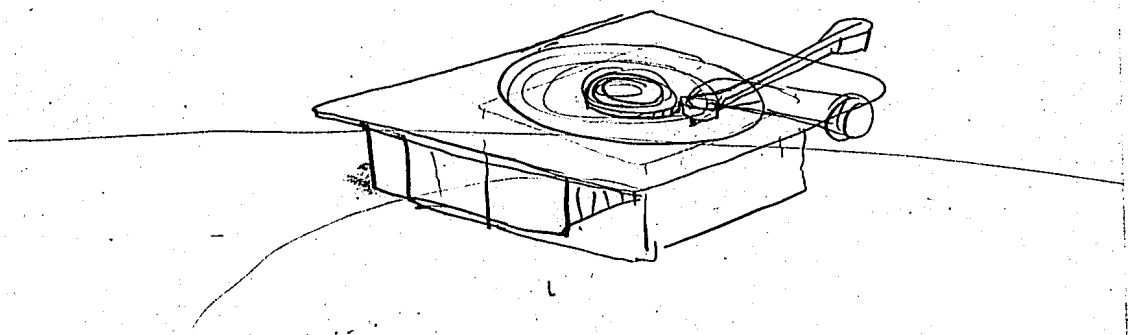
Phonograph
Dec. 11. 1877

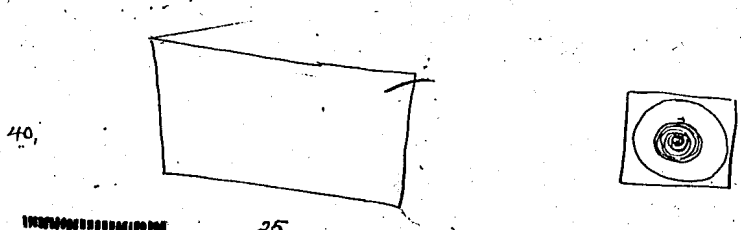

Phonograph
Dec 15 1877
J Kruesi
Inventor
T A Edison

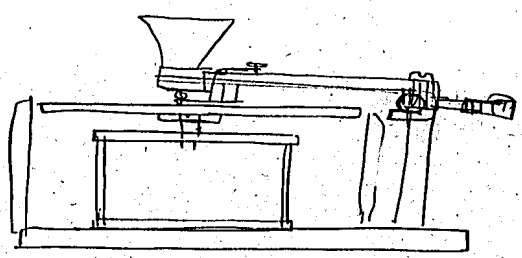


Phonograph

Dec 23 1877
T. A. Edison
Chas Batchelor
J. Kruesi

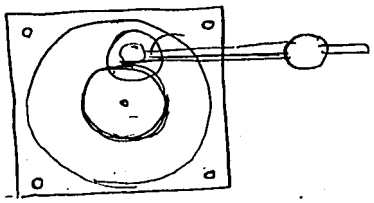




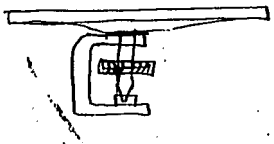


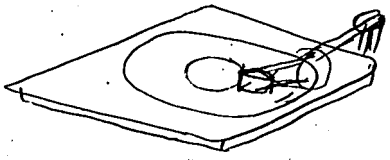
Phonograph—

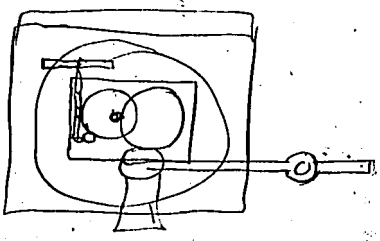
19 Dec 23 1878.
T A Edison
Chas Batchelor
J Kruesi

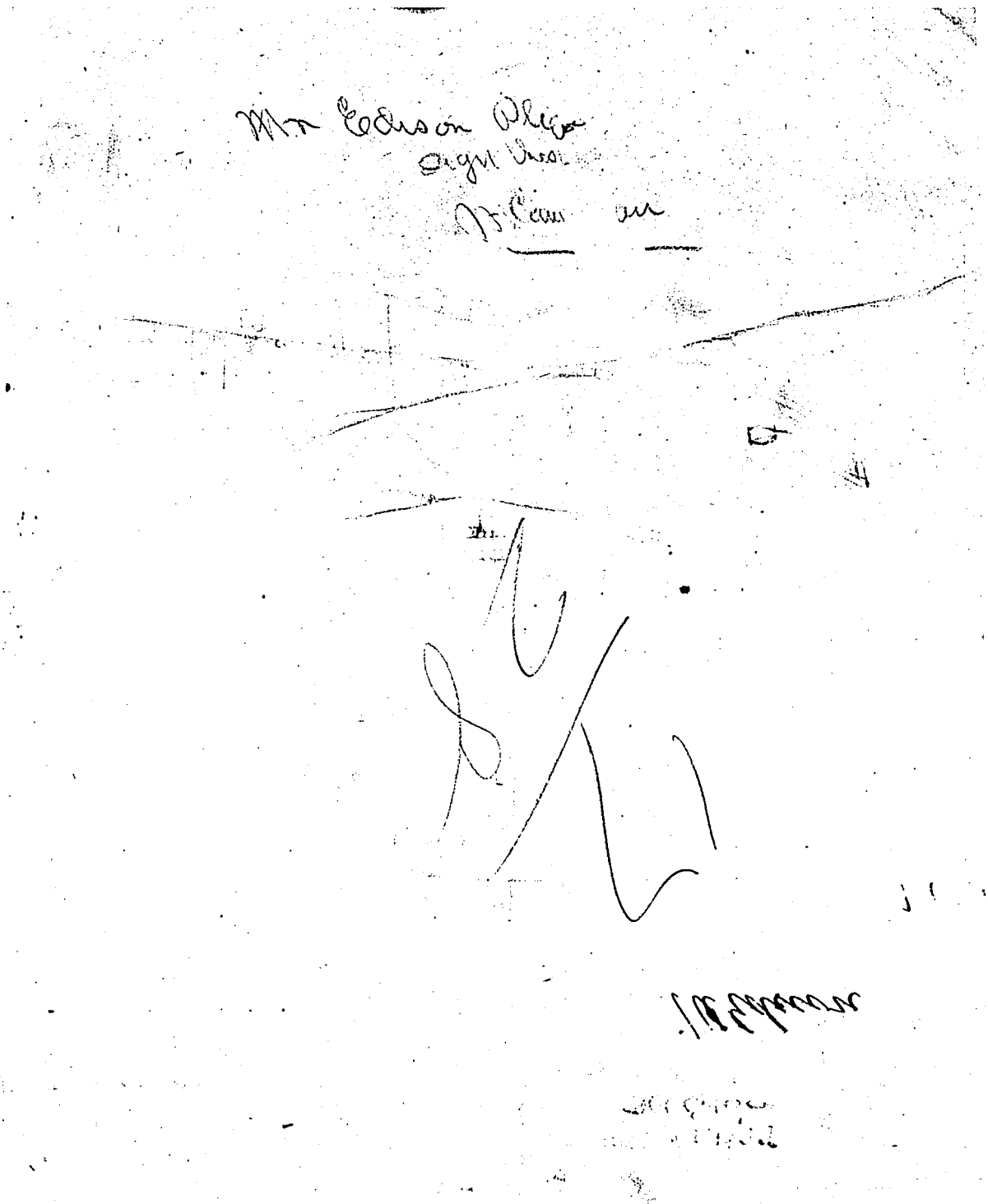


Valve



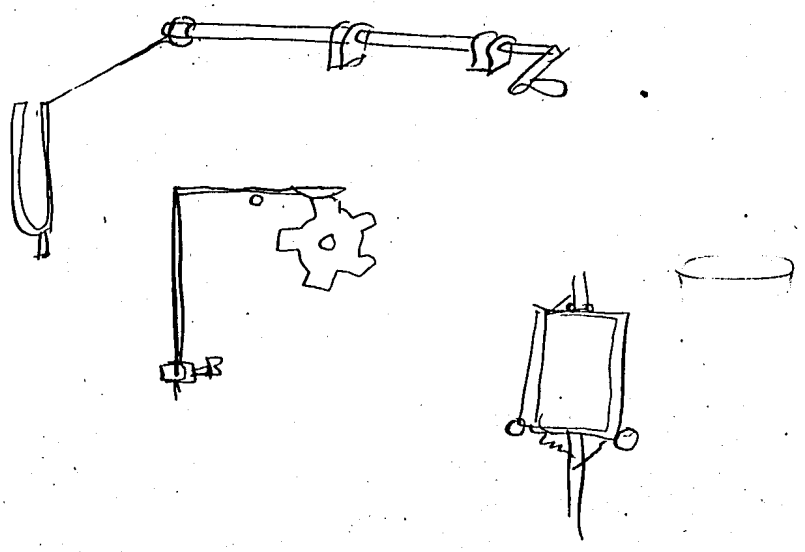






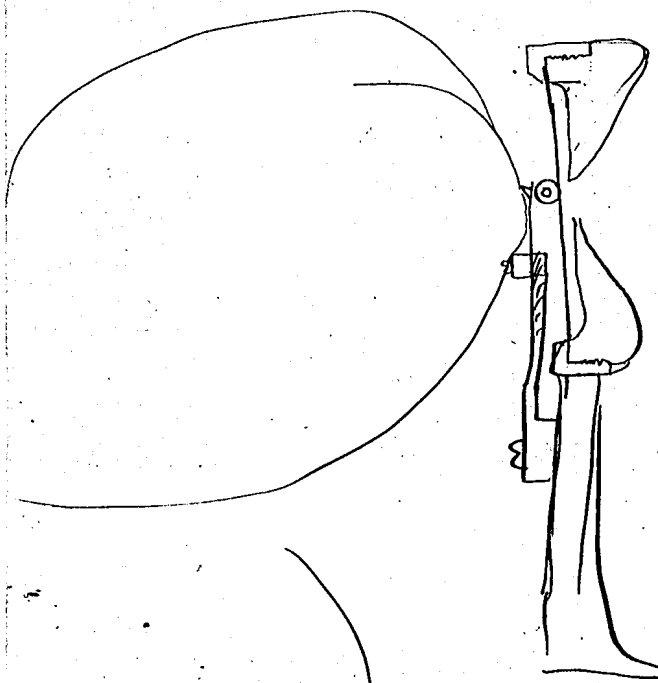
Phonograph

Dec 23 1877
J A Gleason
Chas Batchelor
J Kruesi



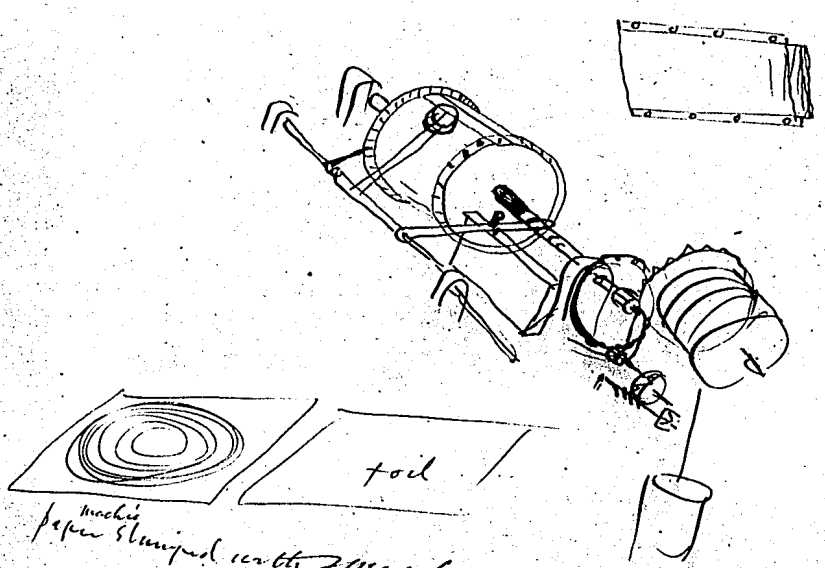
Phonograph

Dec 28 1877
J.A.E.
~~Charbatchet~~
J Kruesi

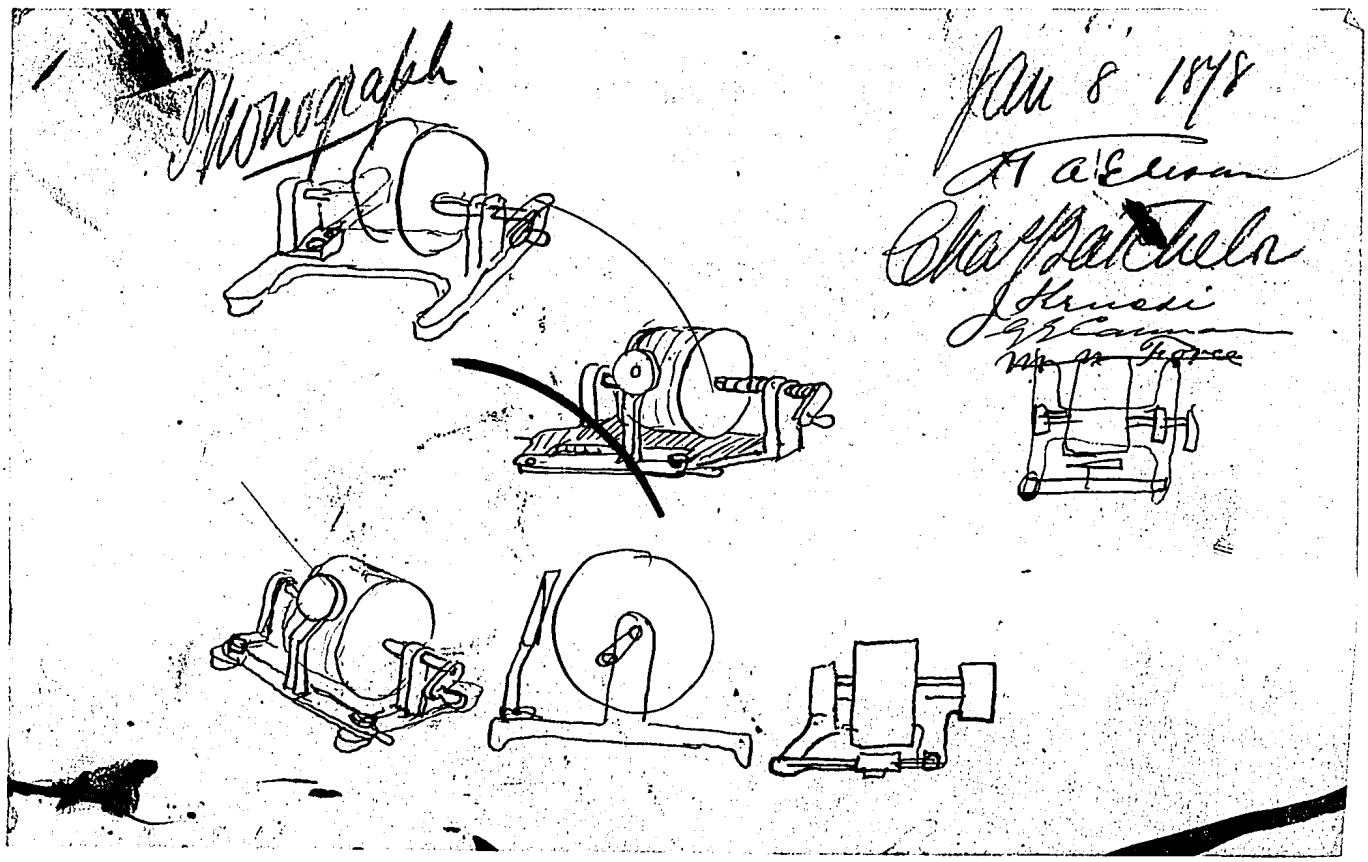


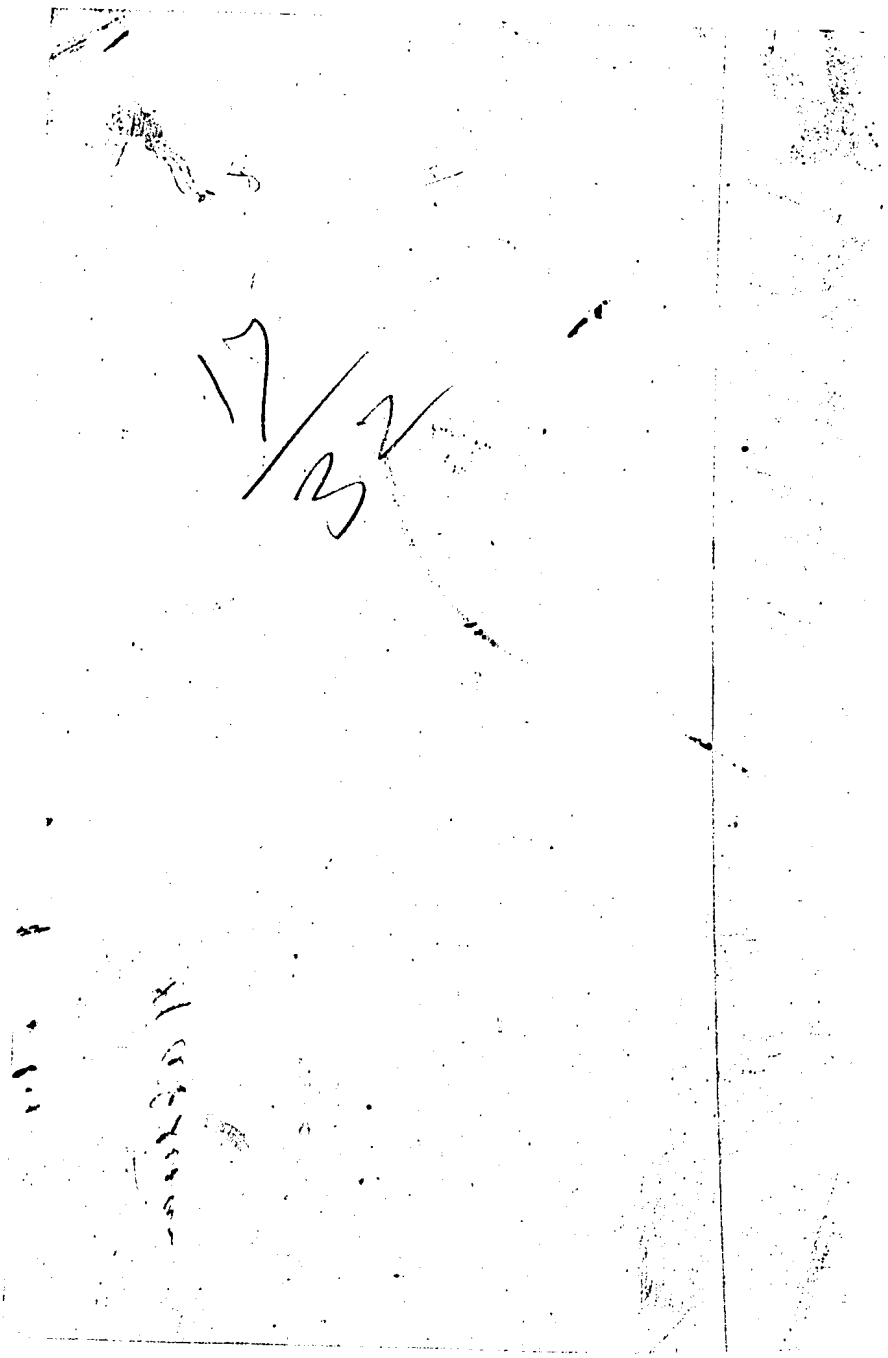
use a Telephone
~~Mouthpiece~~
and arrangements
~~that~~ can replace
Mouthpiece readily
with the funnel
with the complete
Machine & preparations
to ~~as~~ detach the plate
while rotating &
without stopping
Clockwork or Electric Engine
and provide the motor
~~with~~ work to do equal to
~~that~~ which is required
to rotate the plate.

Phonograph Jan 1878
T A Edison
Chas Batchelor
J Krusi
M. N. Faraé



machié
papier Stanniol with sprocket holes for Carbon Button

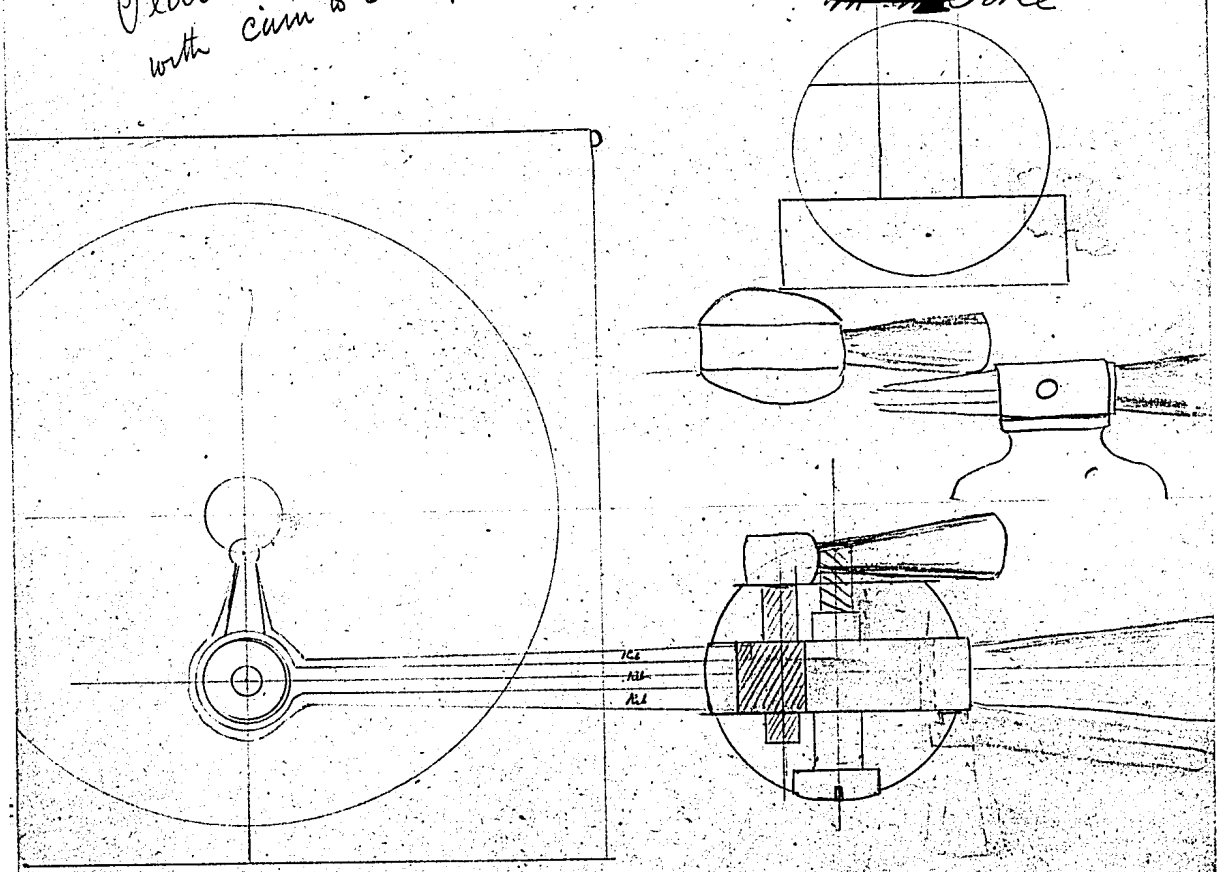

Monograph
Jan 8 1878



Jan 12 1898

Phonograph
Plate and arm (sound)
with cam to clamp arm down

Thos A Edison
J Kruesi
[illegible]



Phonograph model

Jan 12th 1878

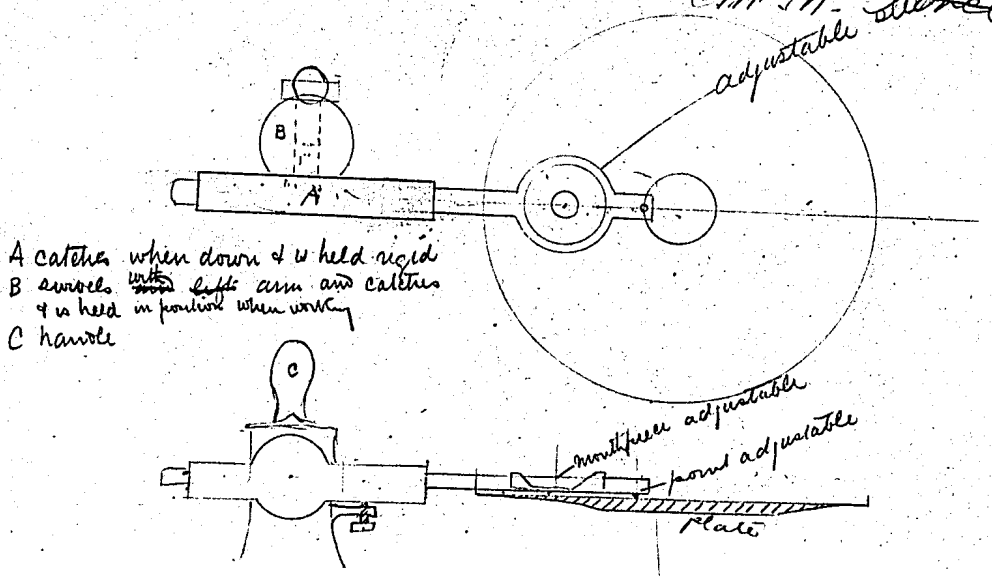
T. a. Edison

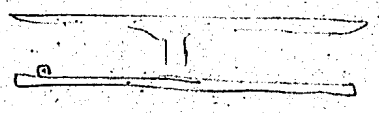
Chas Batchelor

J. Krusi

~~J. F. Ch...~~

~~Wm. M. Lawrence~~





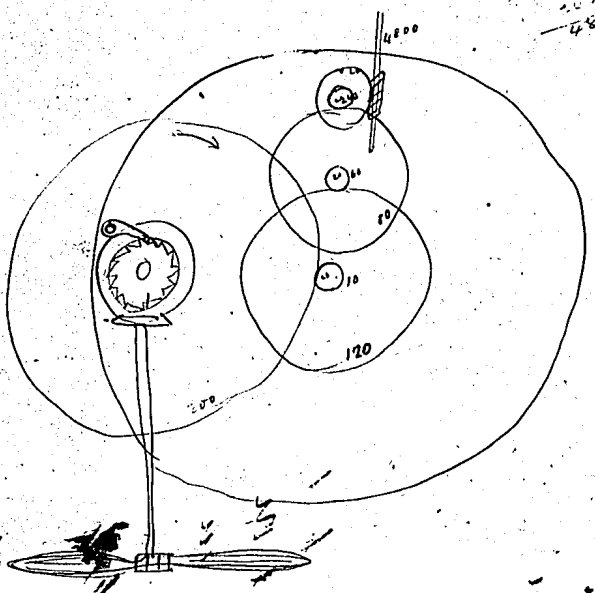
34

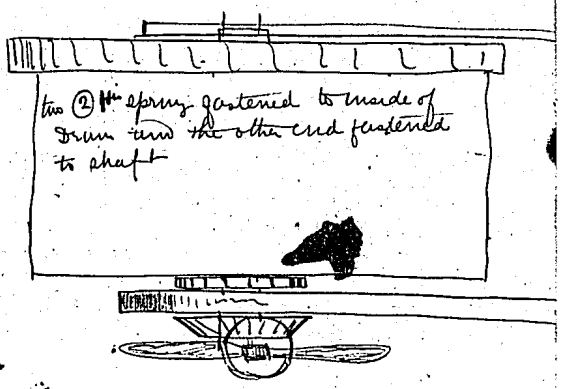
Jan 12 1878

T. A. Edison
Chas Batchelor
J. Kruesi
Geo Gamp
M. F. Force

Phonograph

Design the plate OK
" " lever OK
" " swing post OK
" " clockwork
" " winding arrangement OK
" " stopping mechanism
" " throwing out mechanism
" " regulator



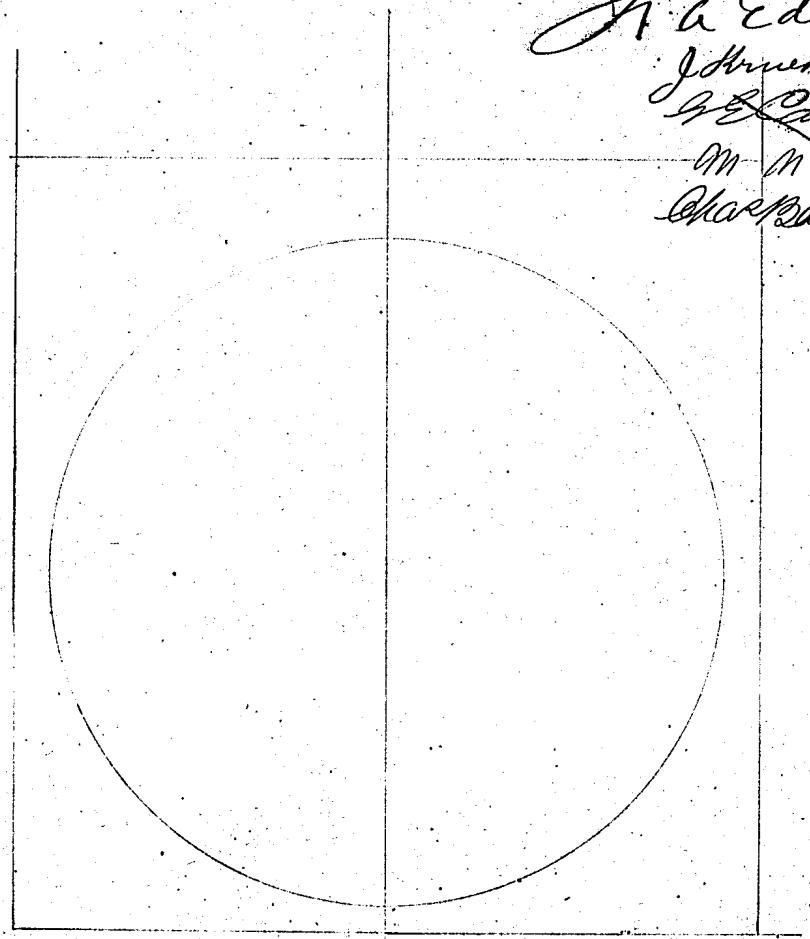


35

Phonograph

Jan 12 1878

T. A. Edison
J. Krusi
G. E. Chapman
M. M. Pierce
Chas Batchelor.



Phonograph

July 23 1878

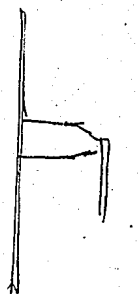
T A Edison

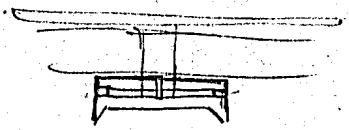
Chas Batchelor

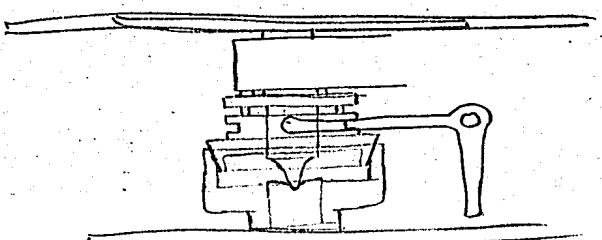
J Kruesi

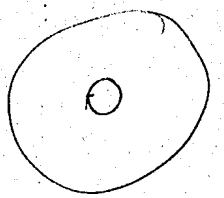
Ludwig Lommen

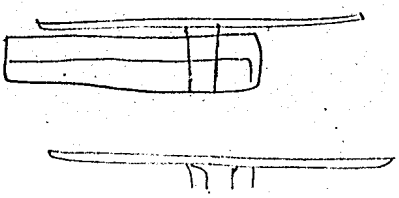
M. Force

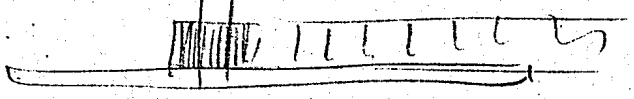


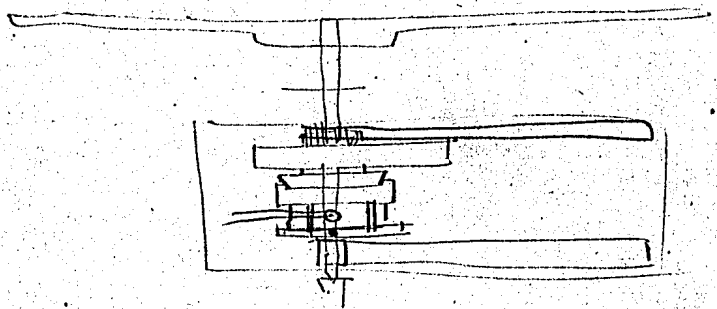


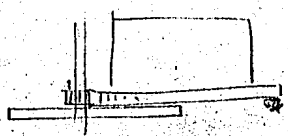


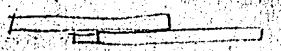












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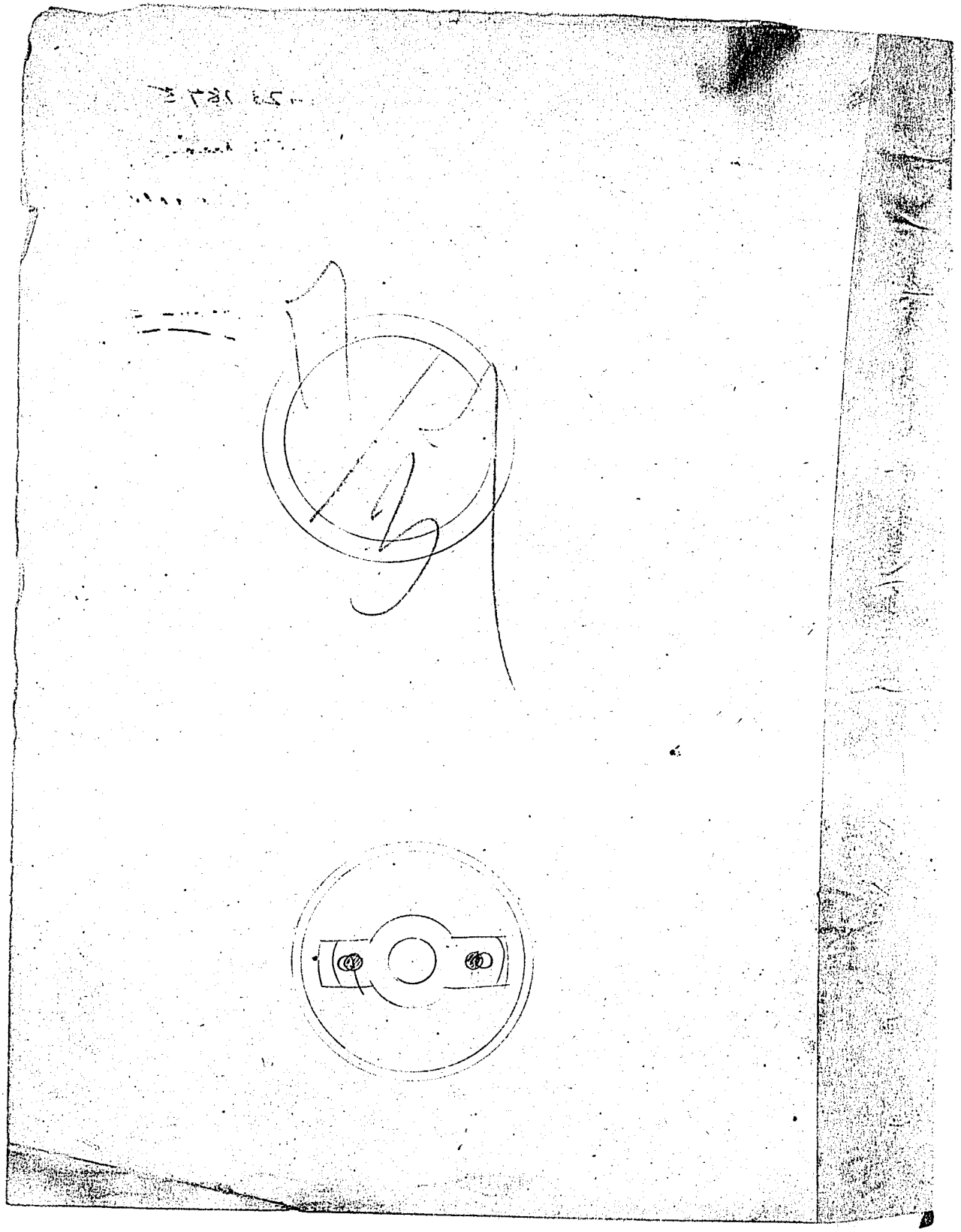
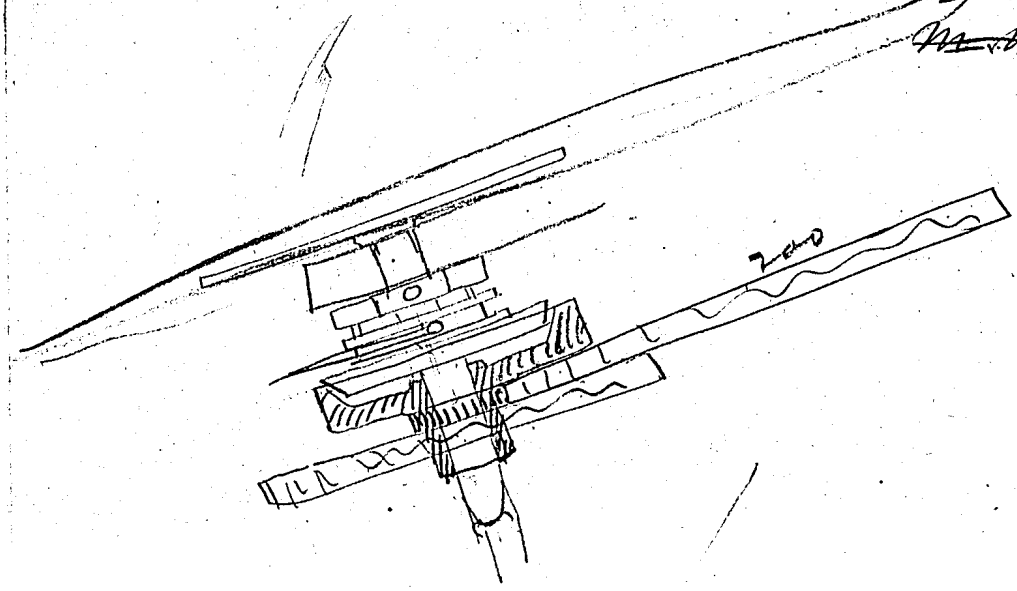


Jan 23. 1878

Patented

Chas Batchelor

J Kennedy



J Thompson

Jan 28 1876

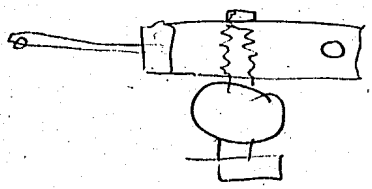
Attest

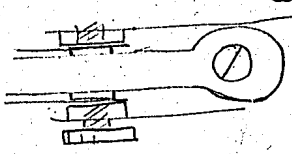
Chas Batchelor

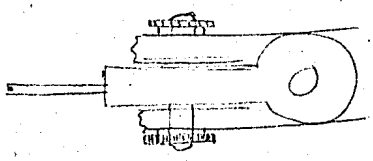
J Kruesi

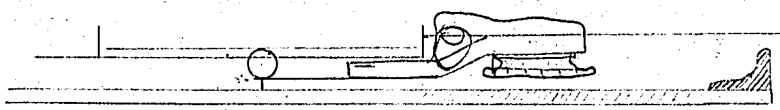
G Clamer

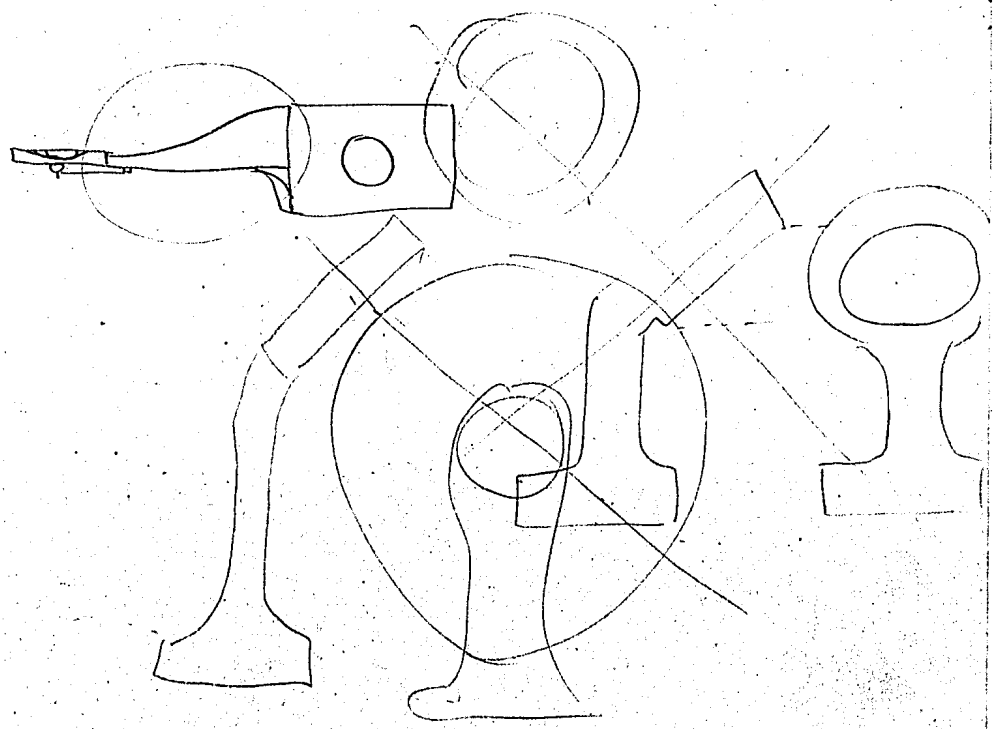
W H Forel











Phonograph

Jany 23 1878

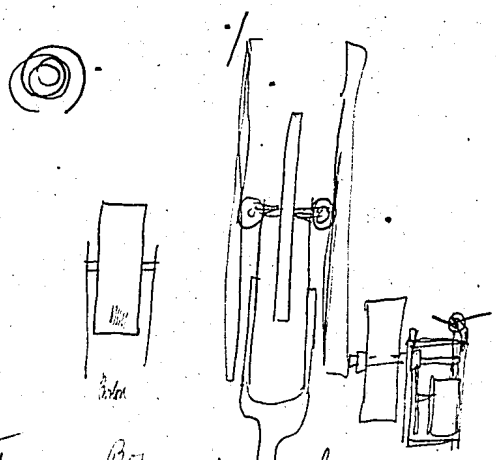
J. A. Edison

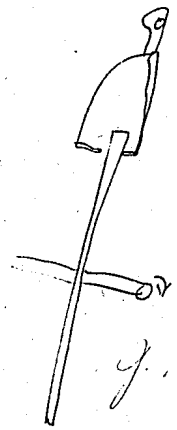
Chas Batchelor

J. Krusi

[illegible]

W. H. Pierce





Boston Boston Boston

Phonograph

Jany. 23, 1878

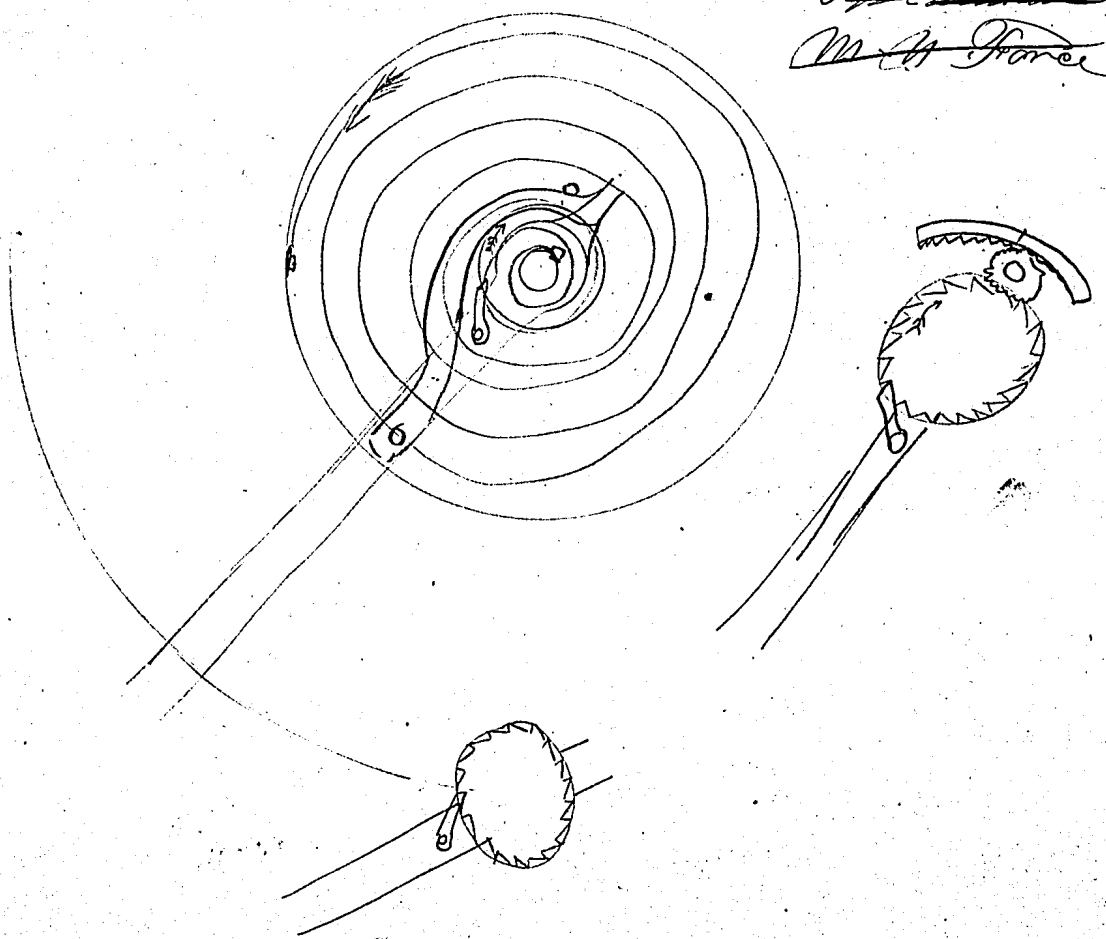
T. A. Edison

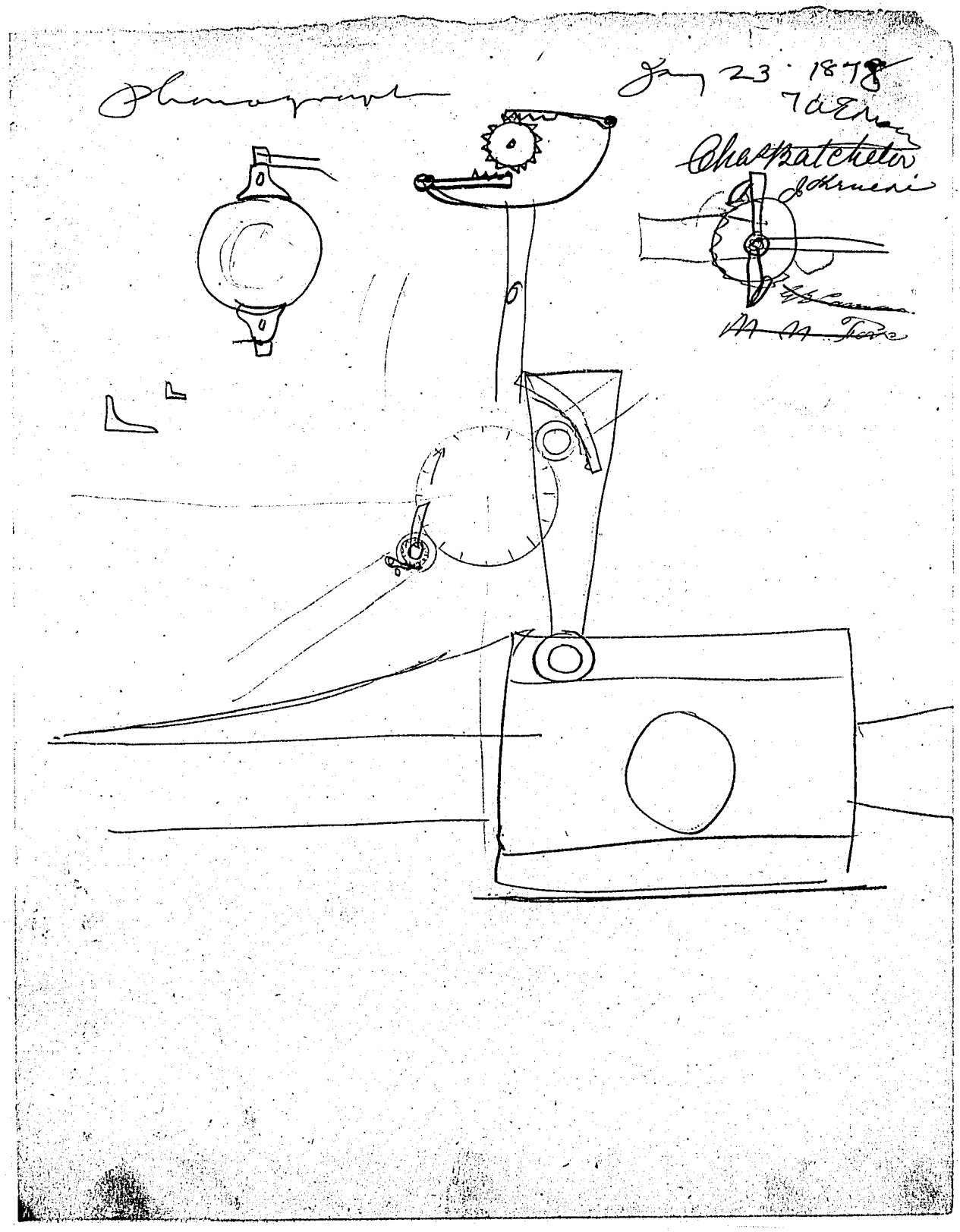
Chas. Batchelor

J. Kruesi

~~A. G. Eaton~~

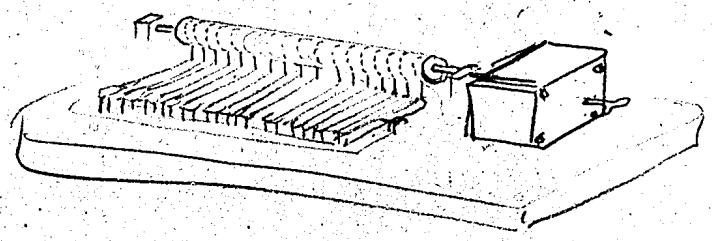
~~M. H. Force~~

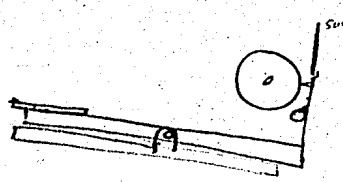



Jan 23 · 1878
Chas Batcheller

Phonograph Apprentices

Jany 25th 1878
T A Edison
J Kruesi
C Batchelor
Chas Stanley





Children please although useful as a new musical Instrument for adults - A Cylinder Coated or otherwise with a mate or rate of vibrations indented around it in 50 or 60 places is rotated by clockwork or other power. There are 50 or 60 keys like depressors of any musical to bring a spring with a point into the path of one of the circles of indents at the same time Connected with a sounding diaphragm or box - The rotation of the Cylinder gives the required vibrations to the spring to give a note with each complete circle of indents - note -

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Photographic applications

Optical Boxes -

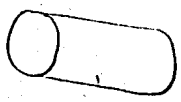
July 25 1878

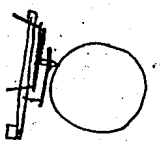
T. Edison

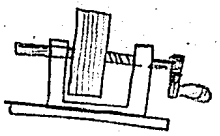
Charles Batchelor, Kruesi

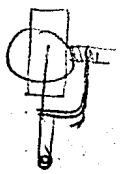
Geo. Gee

Wm. A. Force









Double thread screw
one thread deeper than the
other so each one moves
one inch, three dozen
to the inch and other one
not to touch =

Phono -

Jany 29 1878

Chas Batchelor

To Edison
J Adams
Geo Carman

I propose as an alarm for various purposes
to have Cones, cylinders or discs
drilled ~~stamped cast~~ etc with fine holes
~~Eg~~ around them very close together having
the appearance of a musical note on the
Phono - The hole however deeper - a spring
with point follows in ~~front of~~ the
hole - Spring is connected to a diaphragm
or Sounding board drum etc. The quick
rotation of the plate etc causes the
spring to ~~bat~~ the diaphragm in such
producing a powerful, high, and piercing
scream or note, to trill it I propose
to skip every 3 4 or 5 dot I can
also have several springs & several
Rows of holes like an index plate
Springs making separate diaphragm or
one diaphragm this will give a
Composite ~~tone~~ =

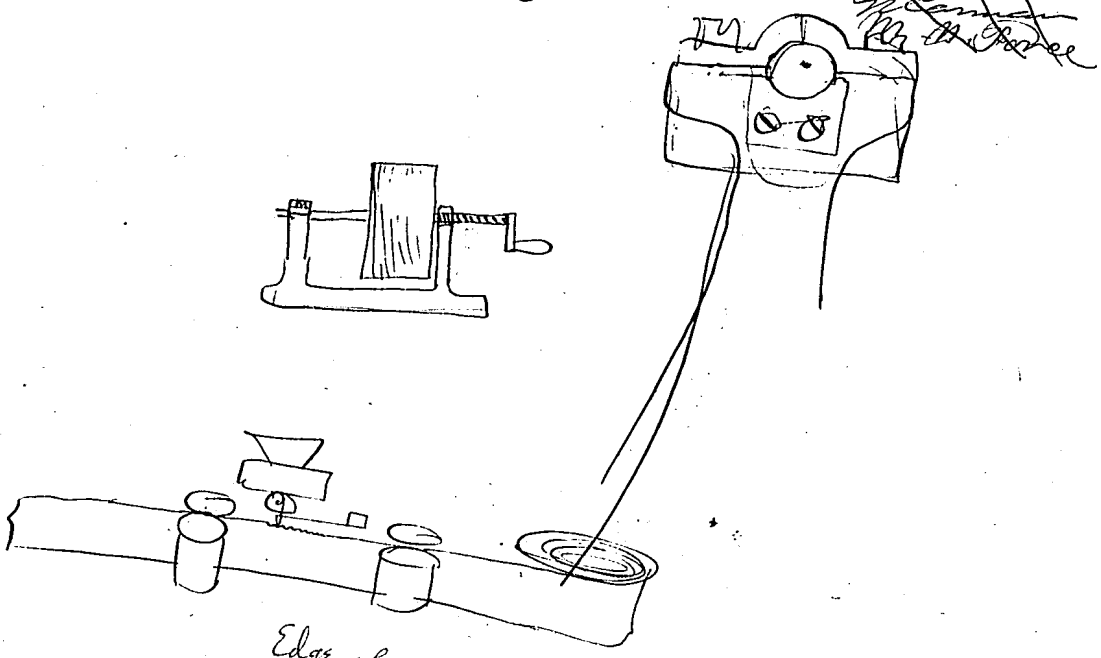
11 Batch just tried at t. ok. loud

45

Phonograph

Feby 2 1878

Chas Batchelor

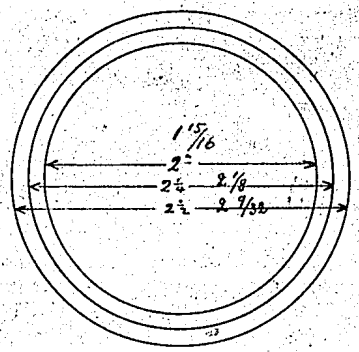


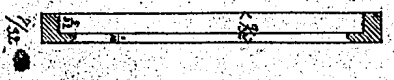
Edge of material for knocking down

Answer ede

iron foil
iron point palanged
The indentations will
will set diaphragm in
vibration by magnetic
attraction without
touching.

Instrument for showing principle of
Edisons Speaking Phonograph
Feb 4th 1878
Chas Batchelor





Cap for holding diaphragm

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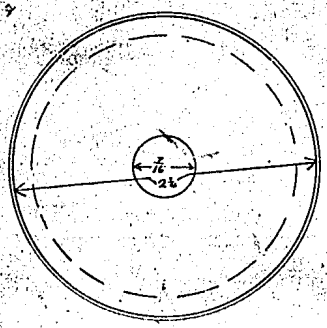
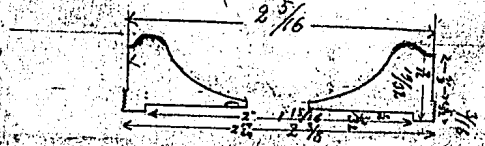
Sheet for showing principle of
Edisons Speaking phonograph
Feb 4 1878
Chas Batchelor

Mouthpiece.





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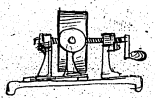
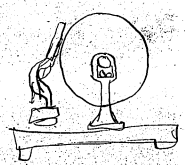
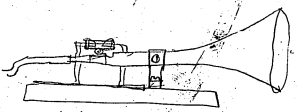
Phonograph

Feby 4 1875
To Edison

Chas. Batchelor
J. Kruesi
M. N. Ford
T. A. Edison







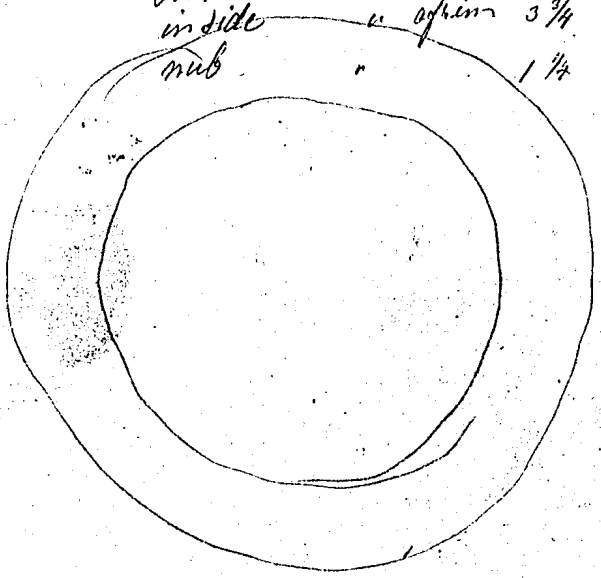
17

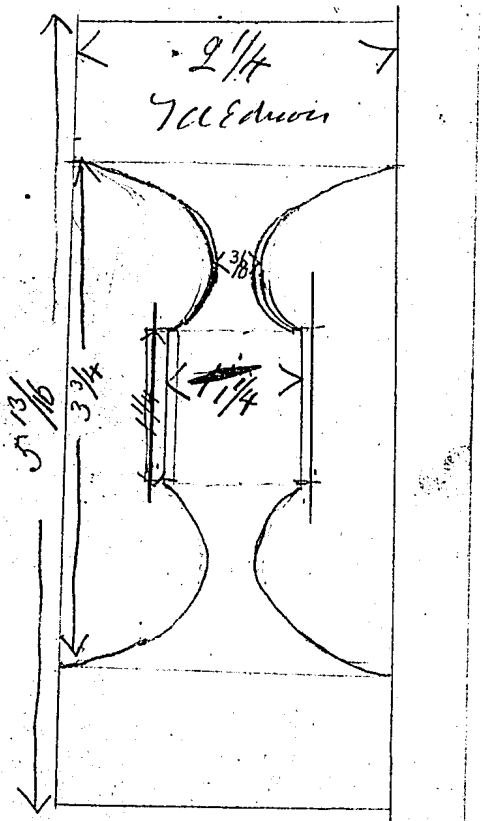
48

Phonograph Feb. 6th 1878

J. Kruesi

Chas Batchelor





50

T A Edison

Feb 8th 1878

Graphic Calculator

J Kruesi

~~Sherman~~

~~W. H. Forbes~~

171 : = 80

171
314
684
171
513
80 / 53974
6

Phonograph. 80 / 5370 / 67

300 6½
1500
1500
3.141 / 18.850 / 6.28
1846
650
628
22

1.71

~~629~~

150 6½
900
750
3.14 / 9.75 / 3.10
942
330
314
160

Large Wheel 300 teeth Diam 6.21 = 629
Pinion — 30 teeth Diam .62 } - 70
Large Wheel 150 teeth Diam 3.10 } - 318
Pinion 20 teeth Diam .41 49

20 6½
120
120
3.14 / 1.300 / 0.41
1256
440

5

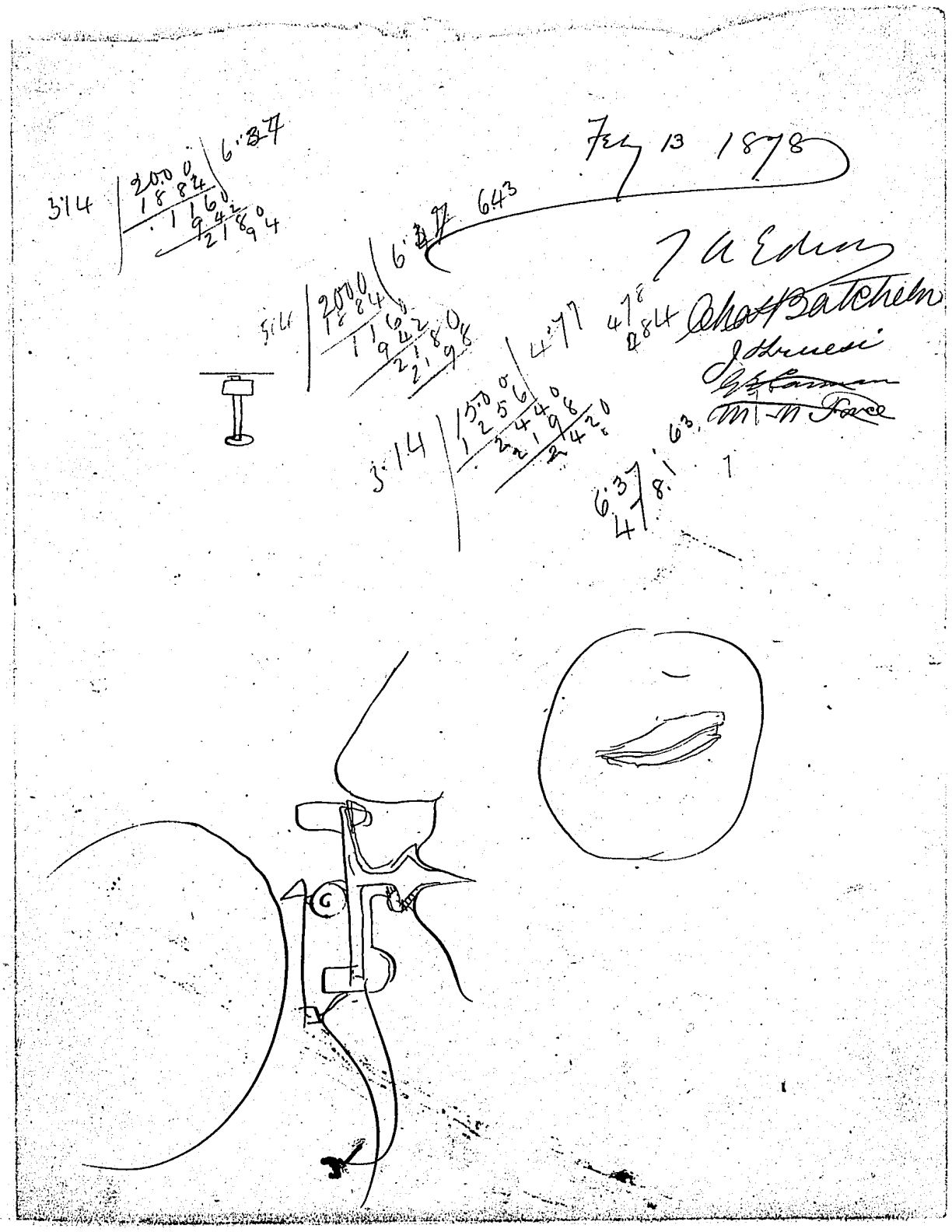
300 / 6.21 / 2

300 6½
150 3

6 6½ / 300 / 50

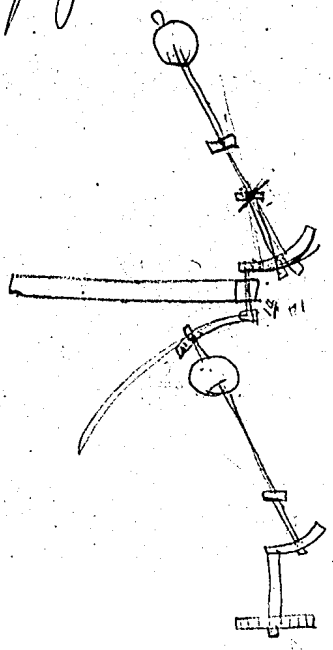
1.71
1.79

7 / 13 / 13



Feb 15 1848

Phonograph

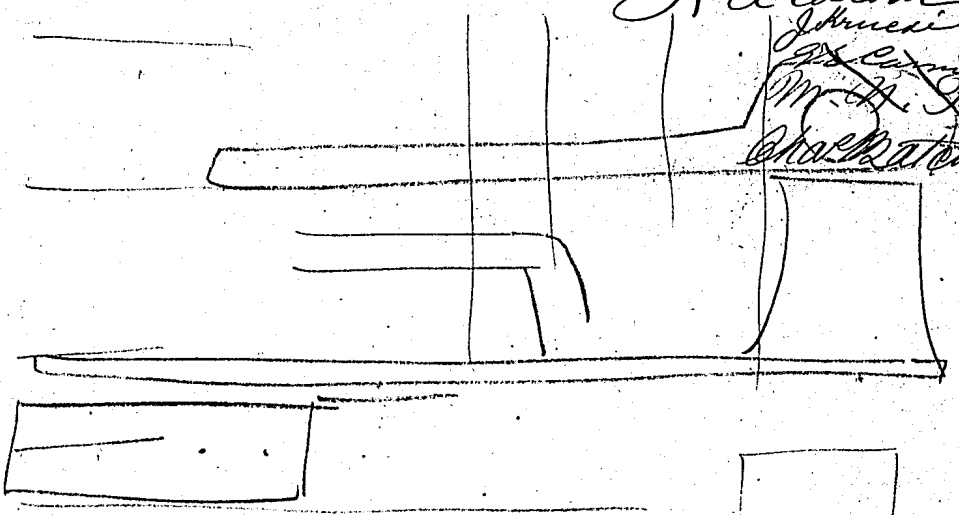


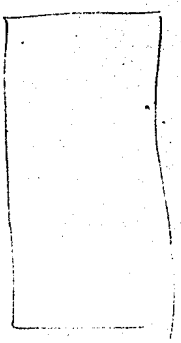
Characteristic Force
M. M. Force
Patterson

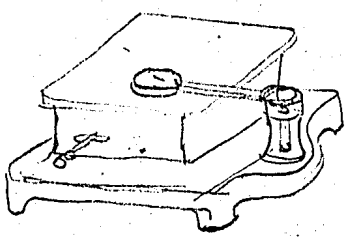
09

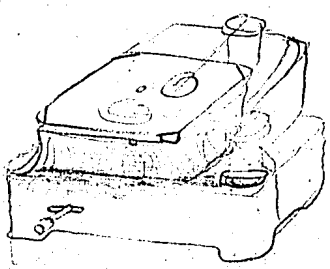
Phonograph Feb. 15th 1878

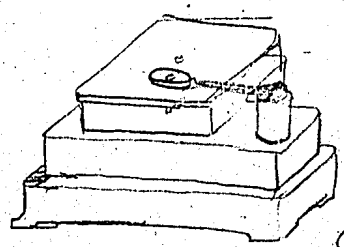
T. A. Edison
Johnson
Wm. A. Moore
Chas. Batchelor

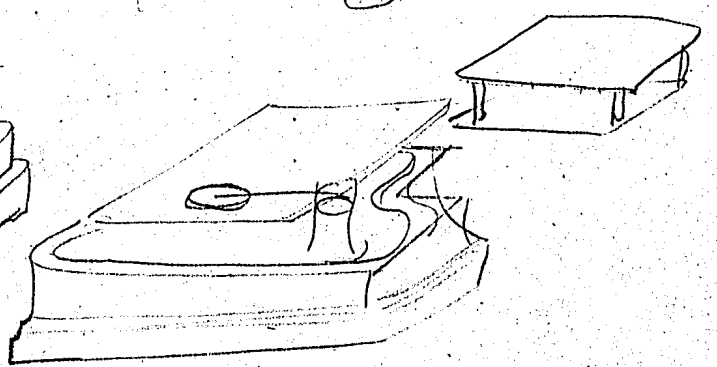




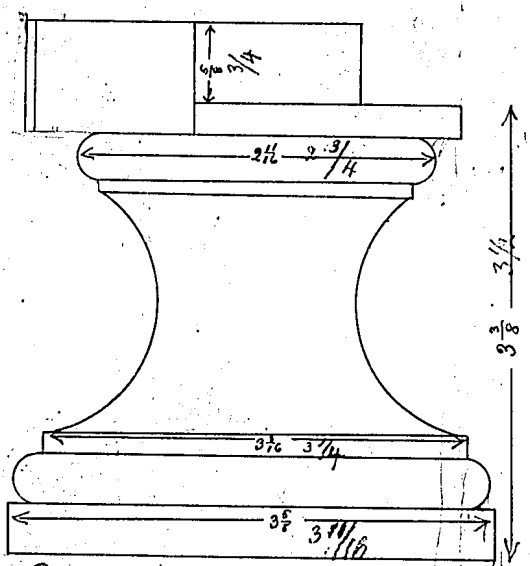




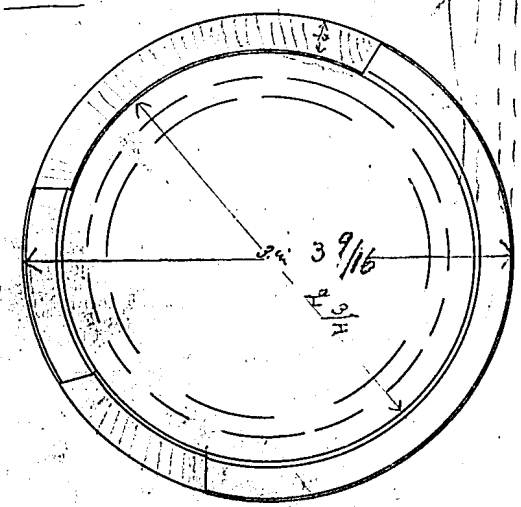




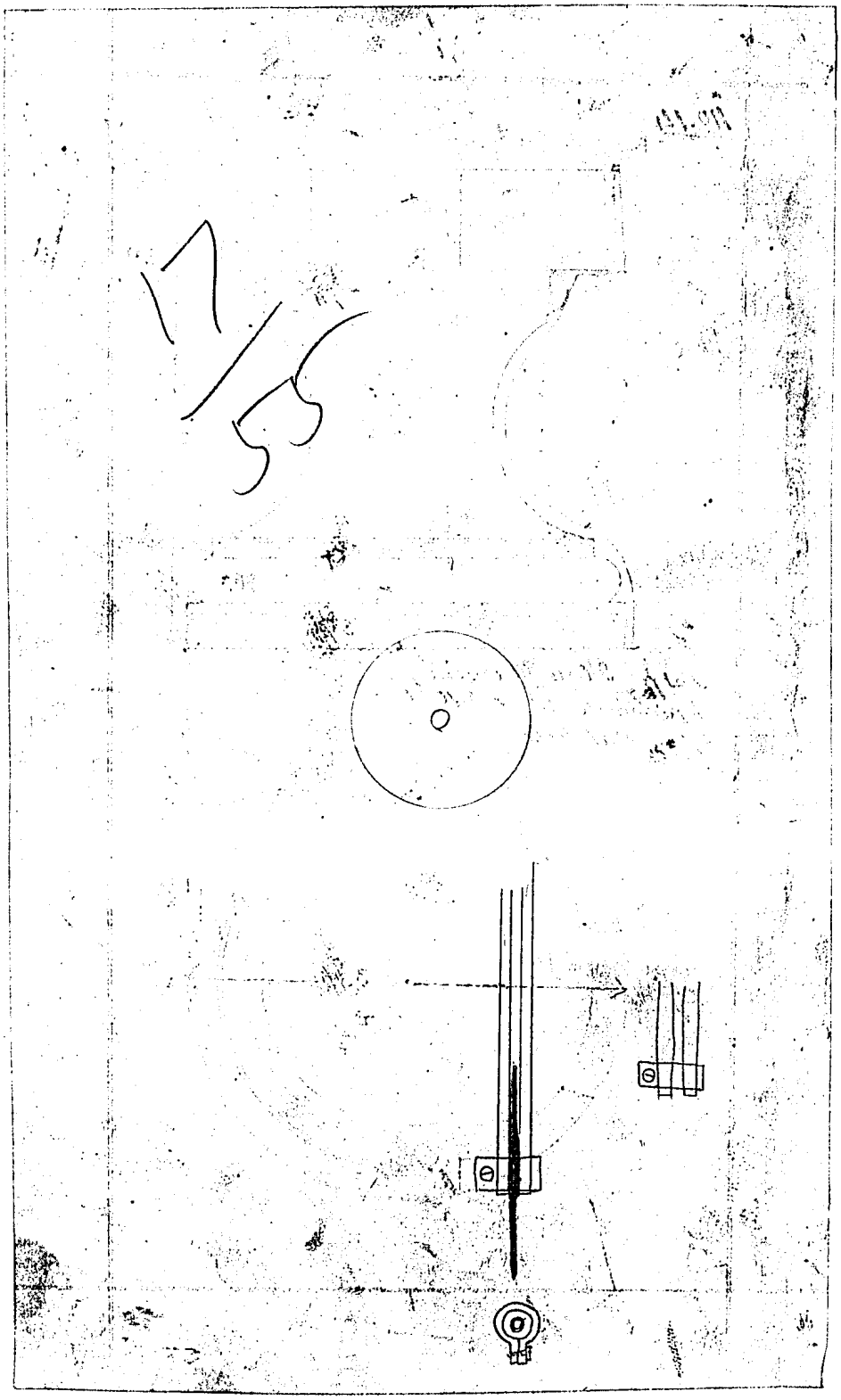
NO 14



Post for Plate Machine
Mens Paris N.J. Feb. 16 1894
Charbatchelor



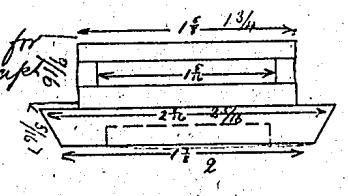
J. Kruesi

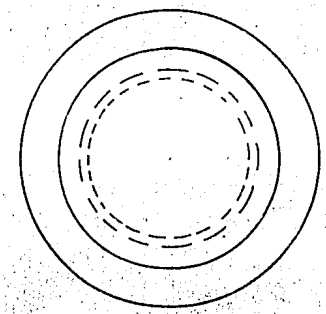

17/55

FROM THE LABORATORY OF
T. A. EDISON,
MENLO PARK, N. J.
U. S. A.

No 18

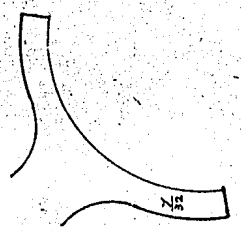
Movable Clutch for
Plate phonograph
Feb 20 1878
Chas Batchelor

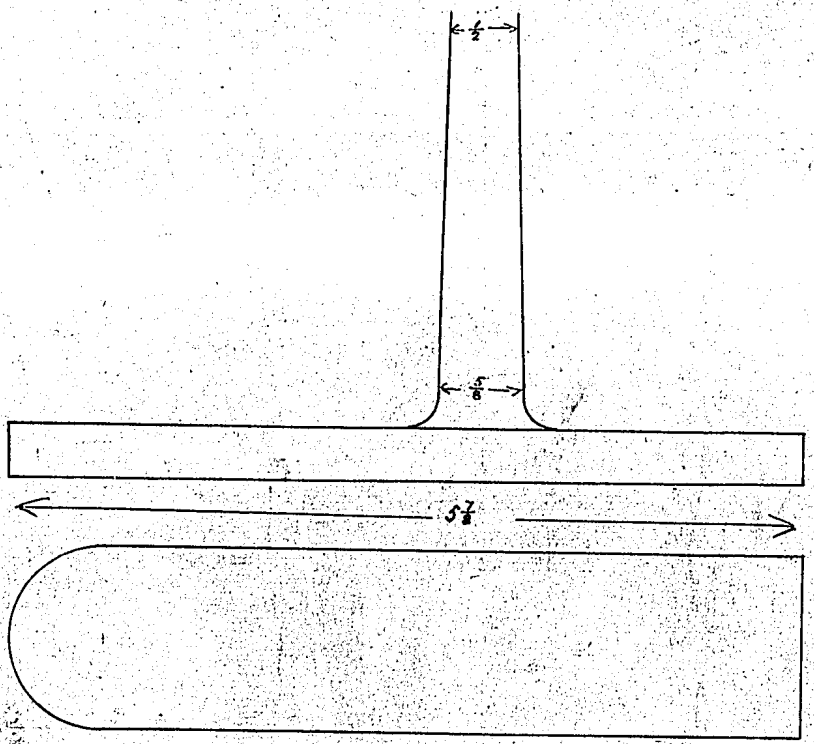


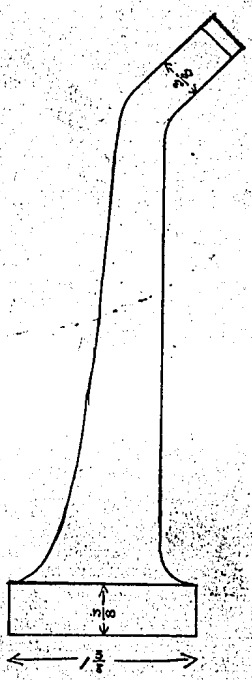


57

Instrument for showing principle of Edisons Speaking phonograph
Feb 4 1878 Chas Batchelder
Diaphragm Arm





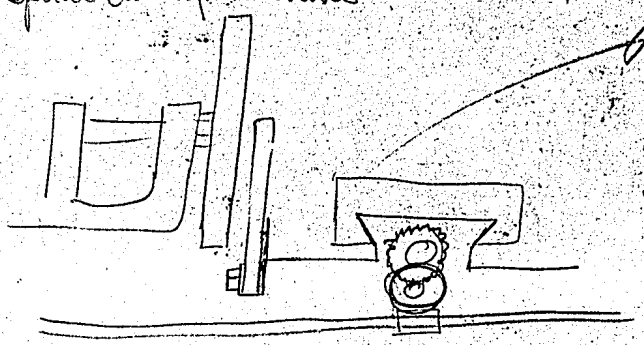


Monograph

March 11th 1878

Geo Eaton
Chas Batchelor
J Amos Adams
J Kinnear 50
Worm Wheel Steel
M. M Force
Wm

Spiral cutting Machine



Take off rack wheel on lathe
and make gear to run
rack shaft by positive motion
then gear up from worm wheel
to cross screw on carriage also
throw carriage on back screw
to set in by

25/1

80/20

50/20

25/5/200

40/384

100/20

4/200 1/50

8/40

100/20 80/20 1/5 50/16

Chas Batchelor

Chas Batchelor

Chas Batchelor

60

Speaking Phonograph

March 19 1877

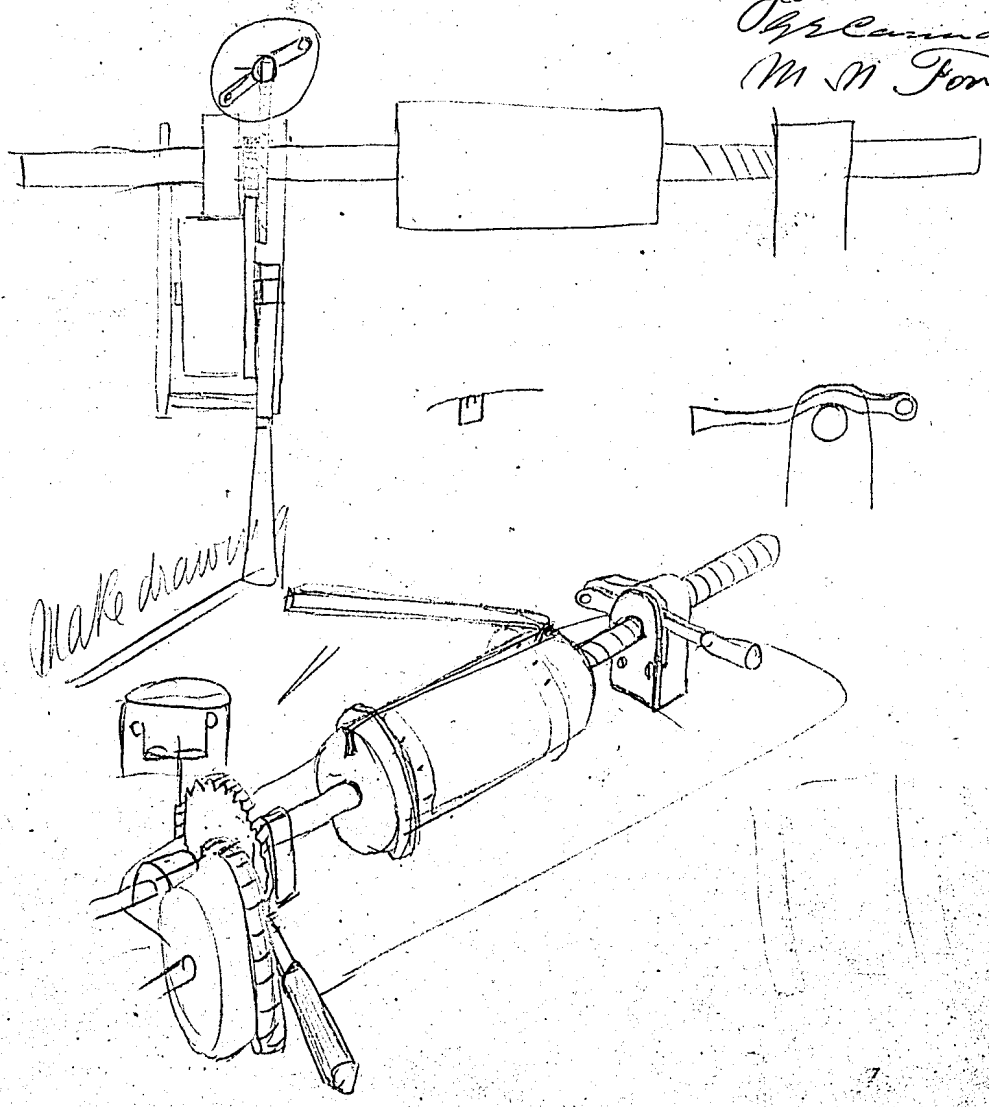
Thos Watrous

T A Edison

J Kruesi

Jos Lamson

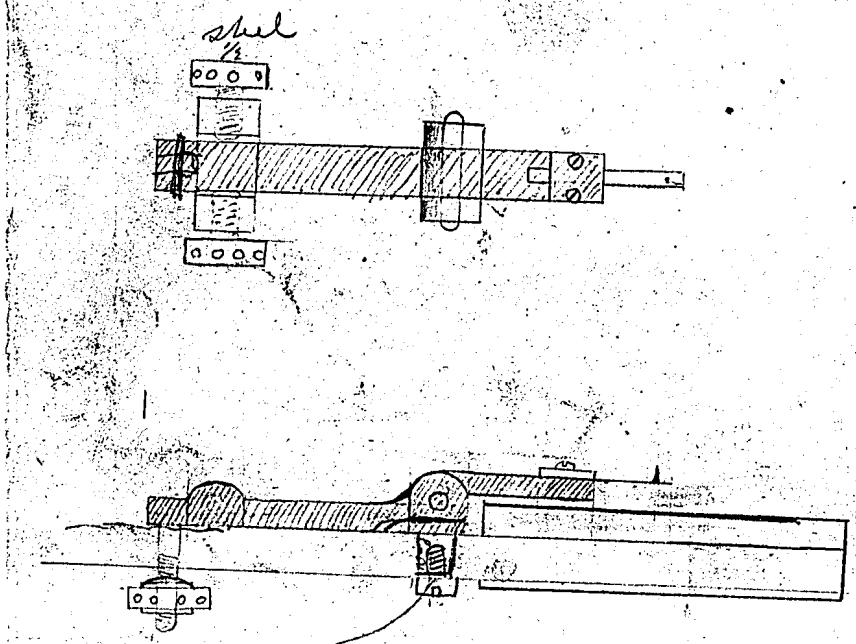
M M Force



7

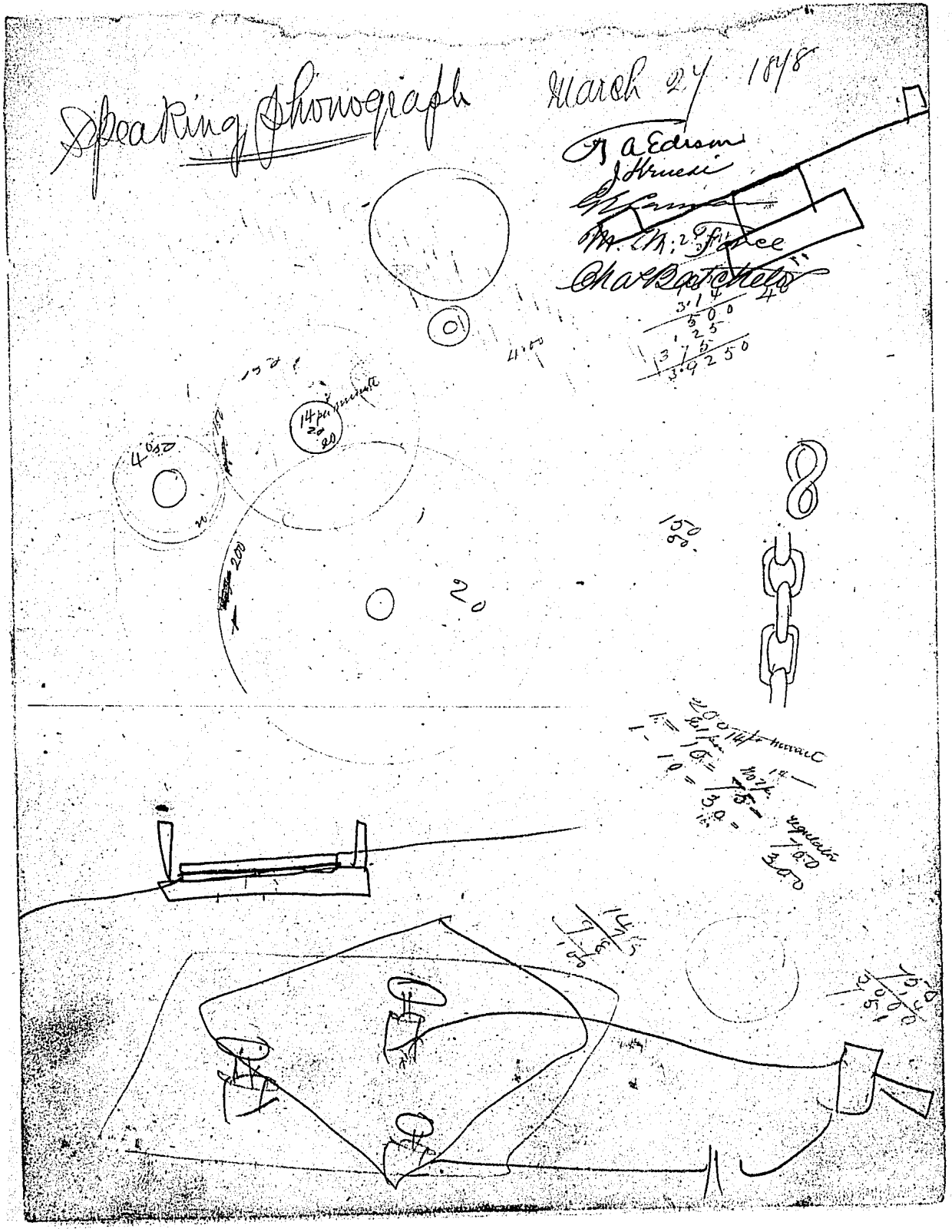
61

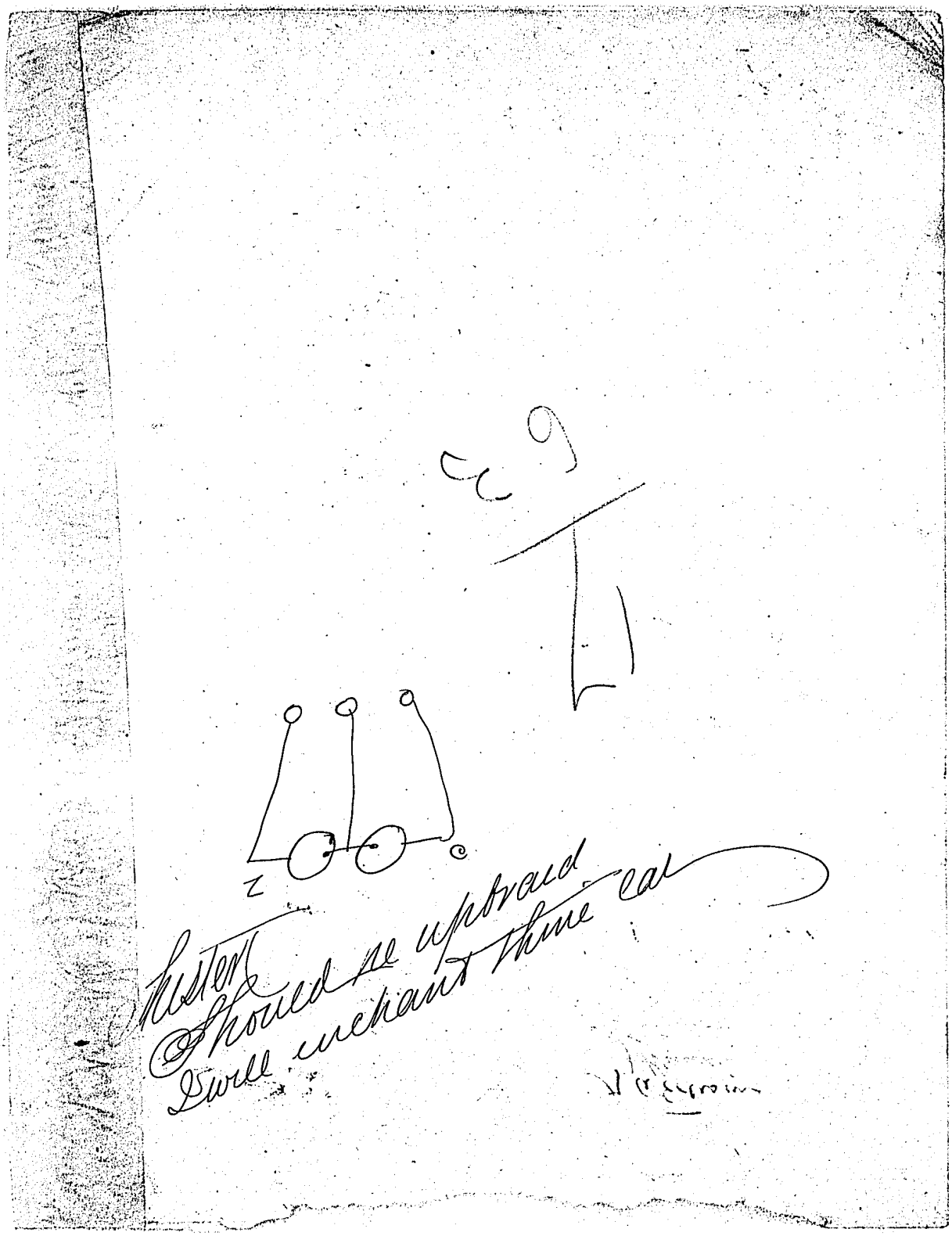
Phonograph March 20th 1878 J.K.Ecceds
M.N. Force
Chas Batchelor
T.A. Edison



Speaking Phonograph March 24 1878

T. A. Edison
J. Kruesi
C. Batchelor
Mr. Ch. 2 Fr. Lee



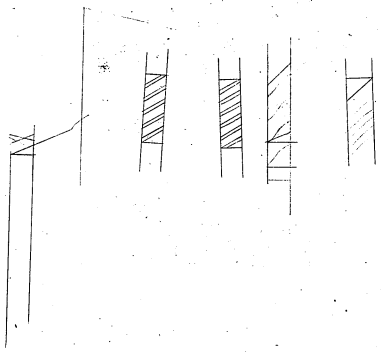

Should be upbraid
Dull mechanic shine

Phonograph dated 29th 1878

M N Force

Chief Architector

Edison



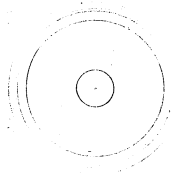
64

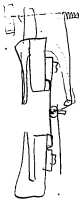
Phonograph April 2d 1878

Tel of Phone

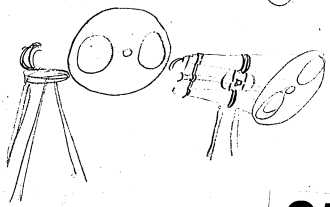
Sketches

Chas Batchelor
M P Tower
T A Edison

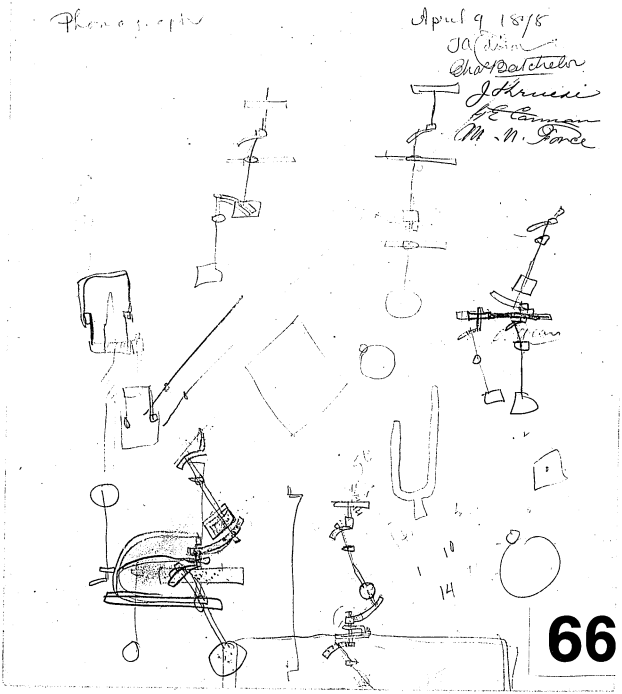




Telephonoscope



65


Phonograph
April 9 1878
J.A. Edison
Chas Batchelor
J. Kruesi
F.E. Barman
M. N. Force
66

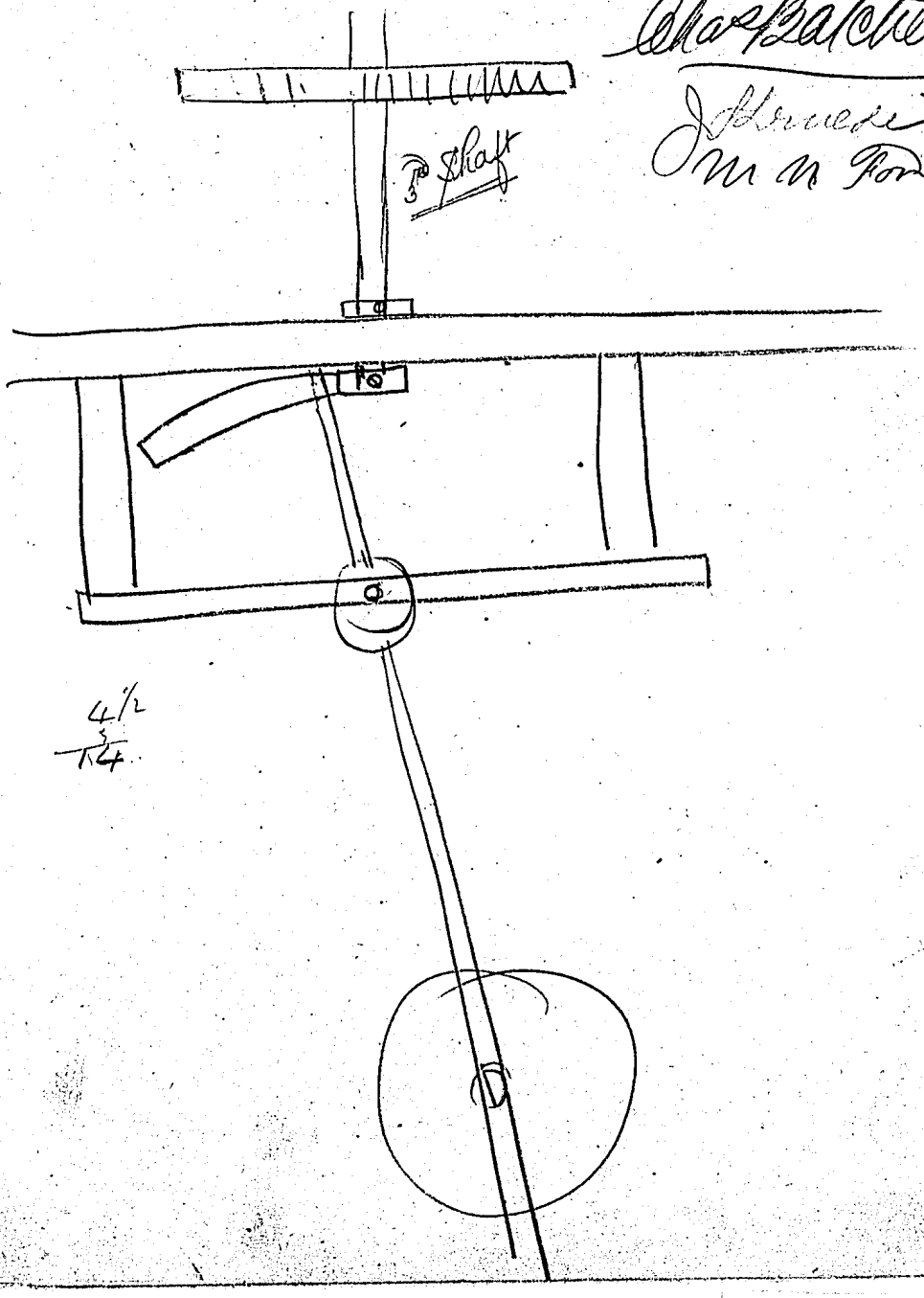
Speaking Phonograph April 18th 1878

T. A. Edison

Chas. Batchelor

J. Kruesi

M. M. Force



Phonegraph April 10-78

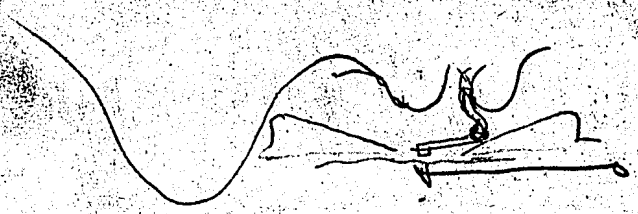
Jas

Chas Batchelor

J Kinnear

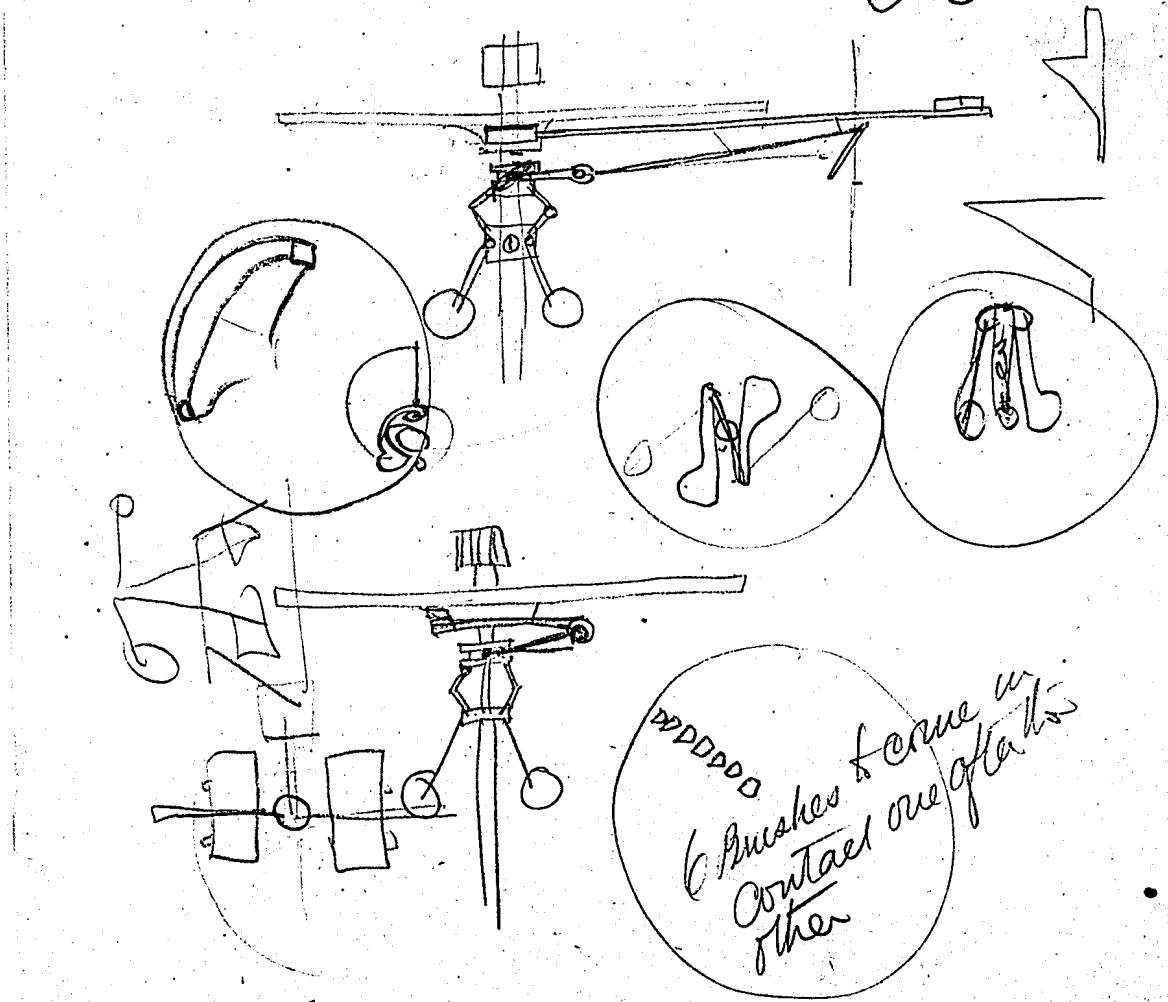
Geo Carman

M. M. Force



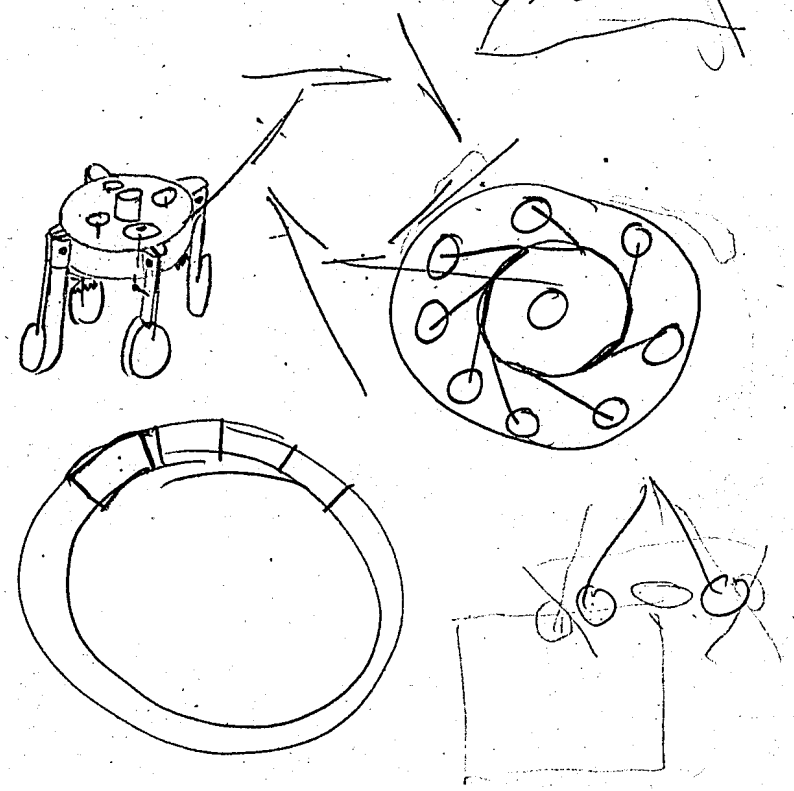
Phonographs Regulators April 10th 1888

Chas Balchelder
J Kruesi
M H Rowe



Speaking Phonograph
Regulator — April 10 '78

Characteristics of Tone
7th Edition



Фелкина Фотография Арго 10 1878

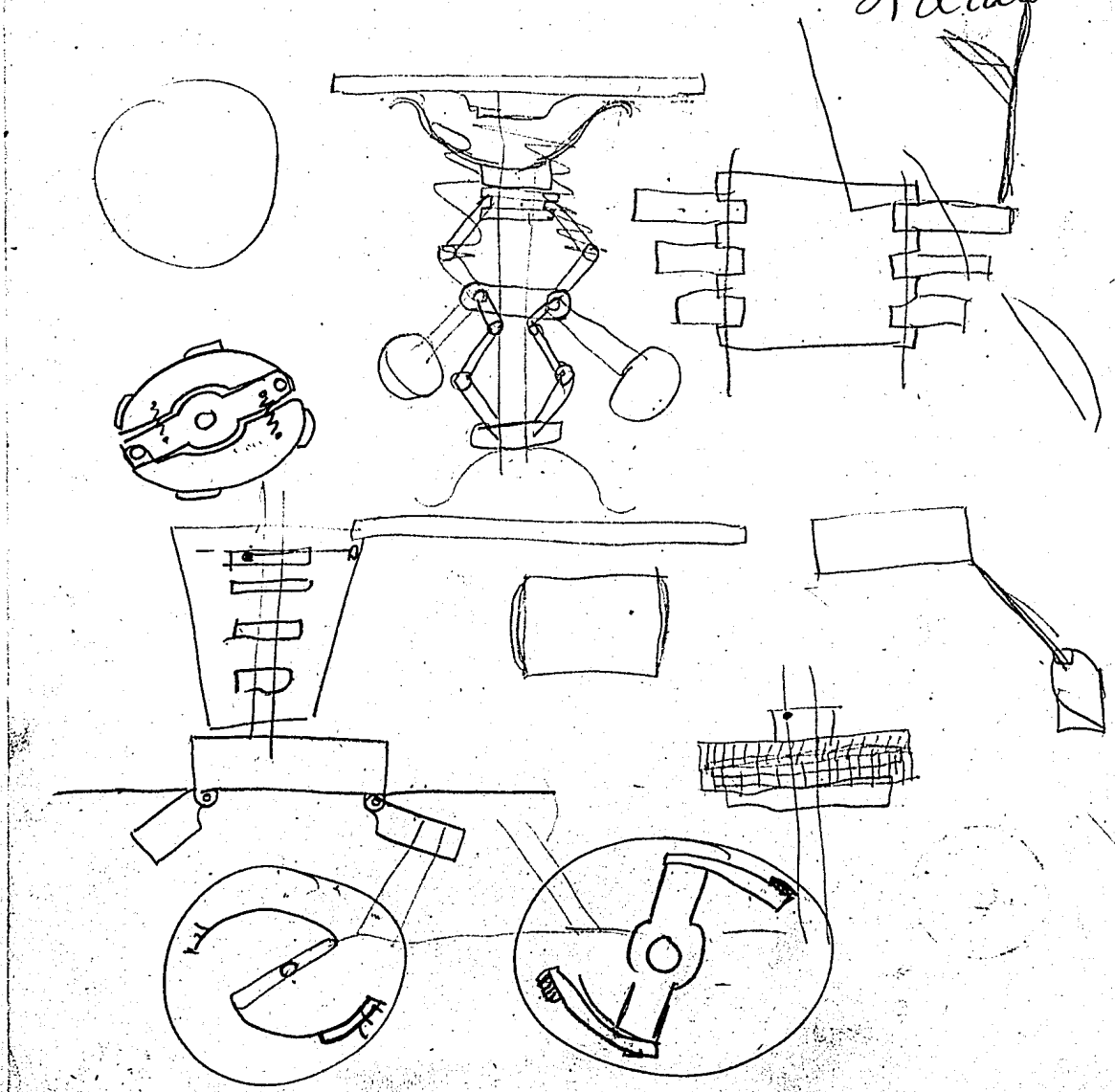
Регулятор

Аппаратный

Кинетоскоп

Кинетограф

Т.А. Edison



Pleasant

April 10 1876

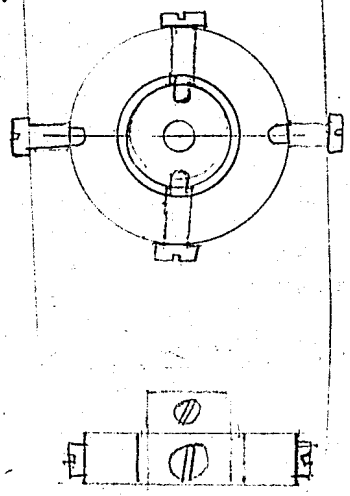
J. Arnold

G. E. Conman

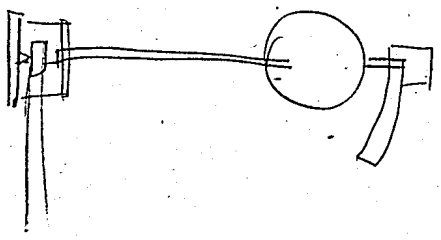
M. M. Force

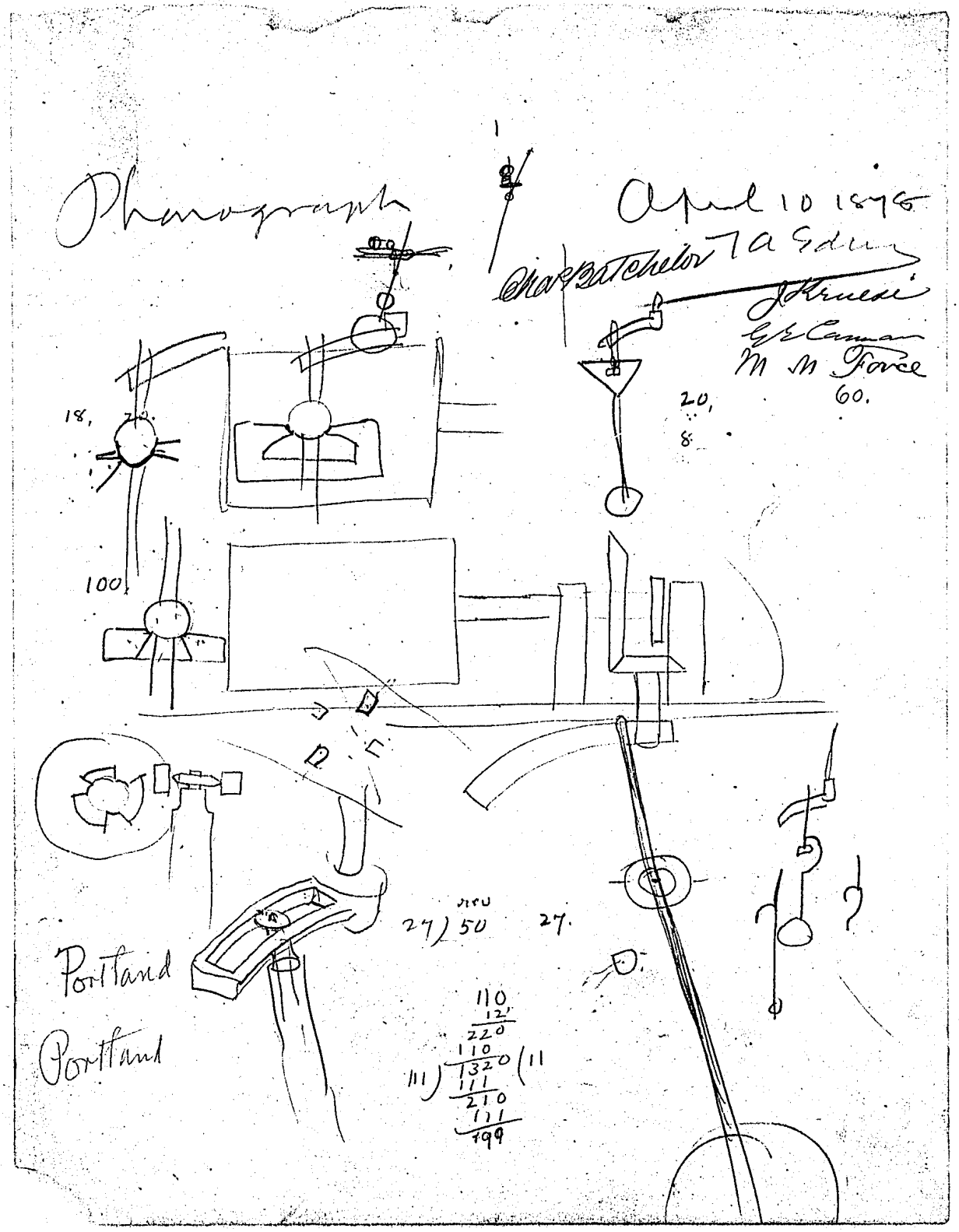
Chas. Satchwell

Universal Joint



17/12

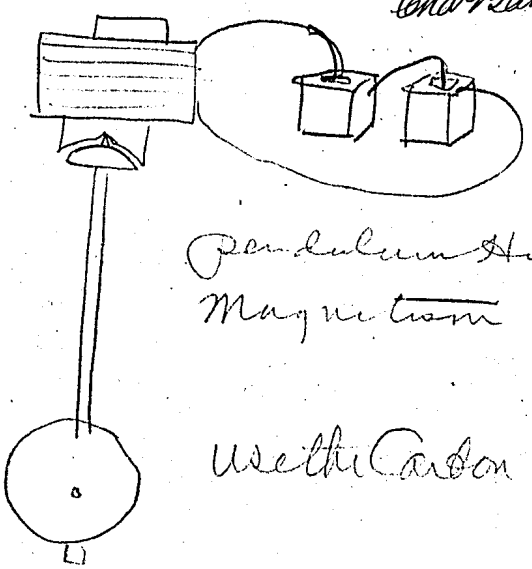



Phonograph
April 10 1876
Charpentier 7a Edition
J Kruesi
E & C Cowan
M M Force
60.
20,
8
18,
100,
27) 50
27.
Portland
Portland
110
12
220
110
111) 1320 (11
111
210
111
99

Phonograph

April 10 1878

Chas Batchelor
A Edison
J Kruesi
G Carman
M M Force



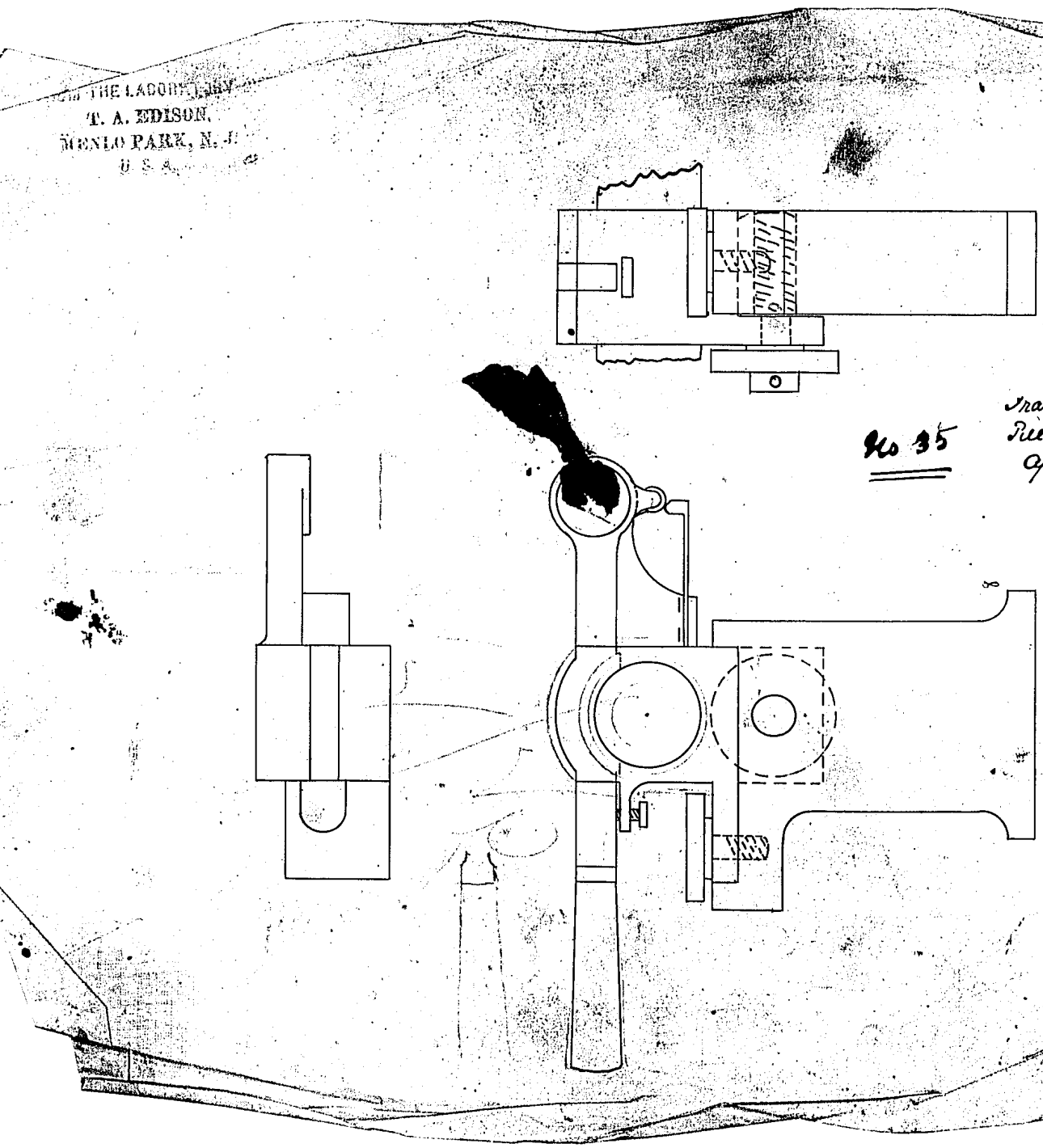
Pendulum Hung by Magnetism

Use the Carbon dark

9.

37.000 000
24
185 000 000

THE LABORATORY
T. A. EDISON,
MENLO PARK, N. J.
U. S. A.

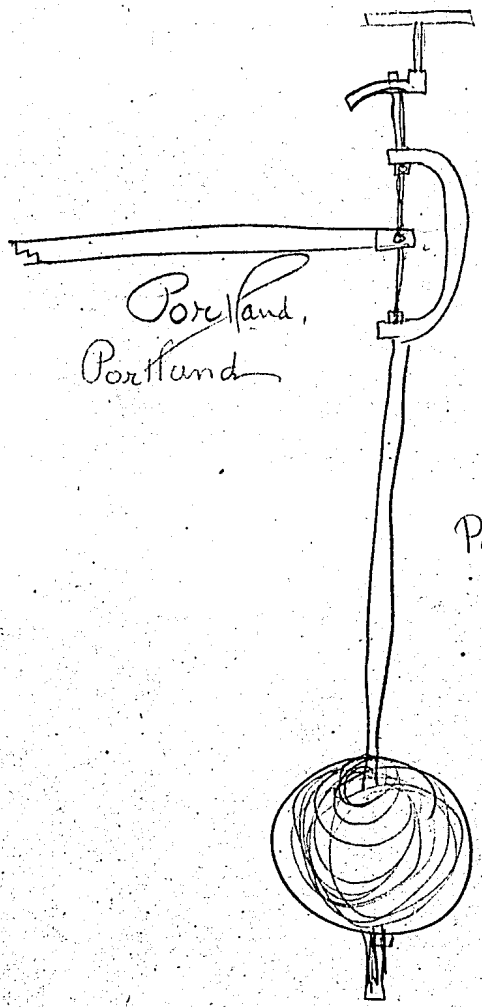


No 35

Tracing of adjustable Pillar on Cylinder Phono.—
Ape 11th 1878
Chas Batchelor

Photograph

April 12 1878
T A Edison
Chas Batchelor
J Kruesi
G E Gamman
M G Force



Portland,
Portland

Portland
Portland,
Portland

Portland

*

Portland, Portland
Portland

Phonograph

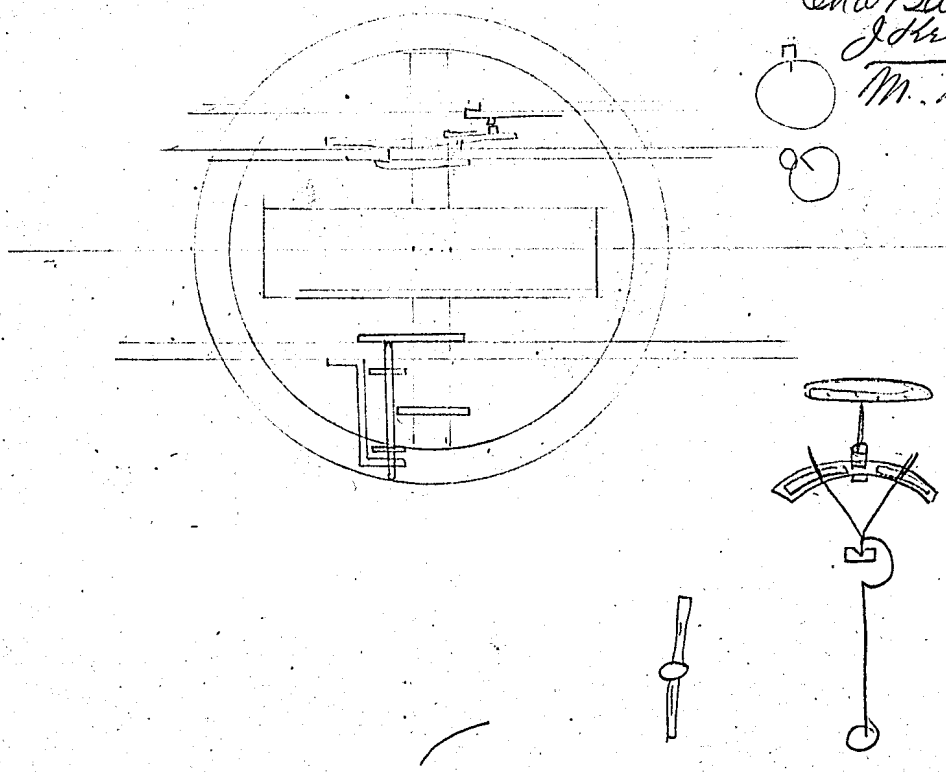
April 12 1878

T A Edison

Chas Batchelor

J Kruesi

M. M. Force



Speaking Phonograph

Apl 12 1878

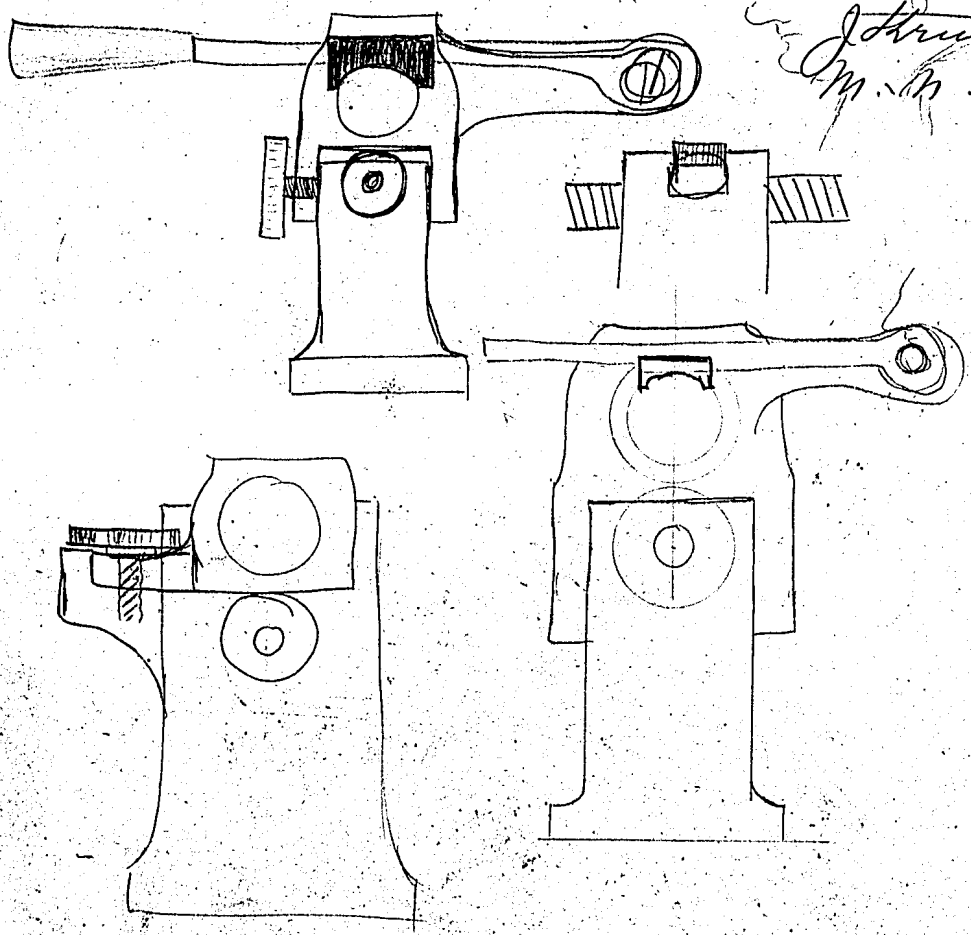
T A Edison

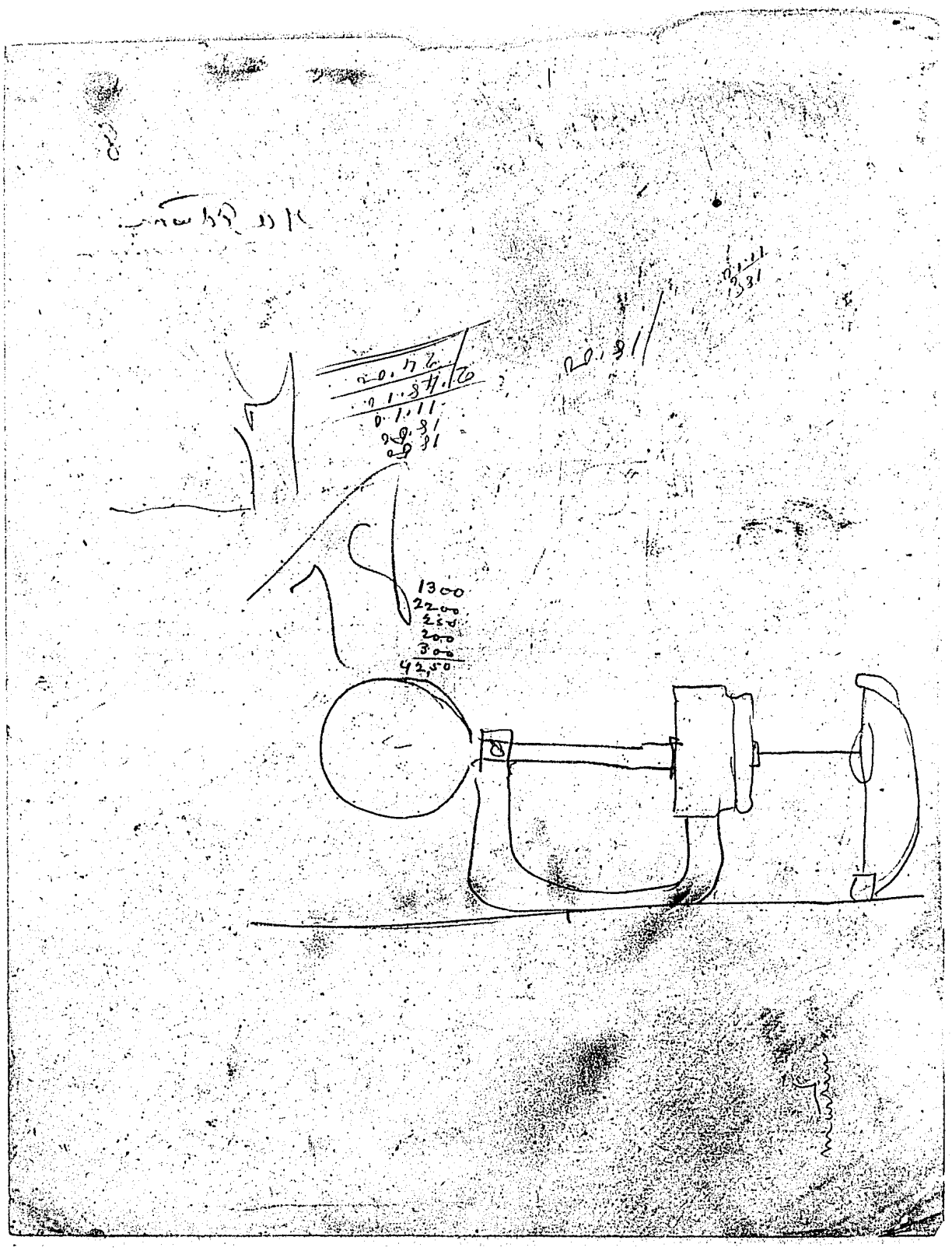
G F Carman

Chas Batchelor

J Kruesi

M. H. Rowe

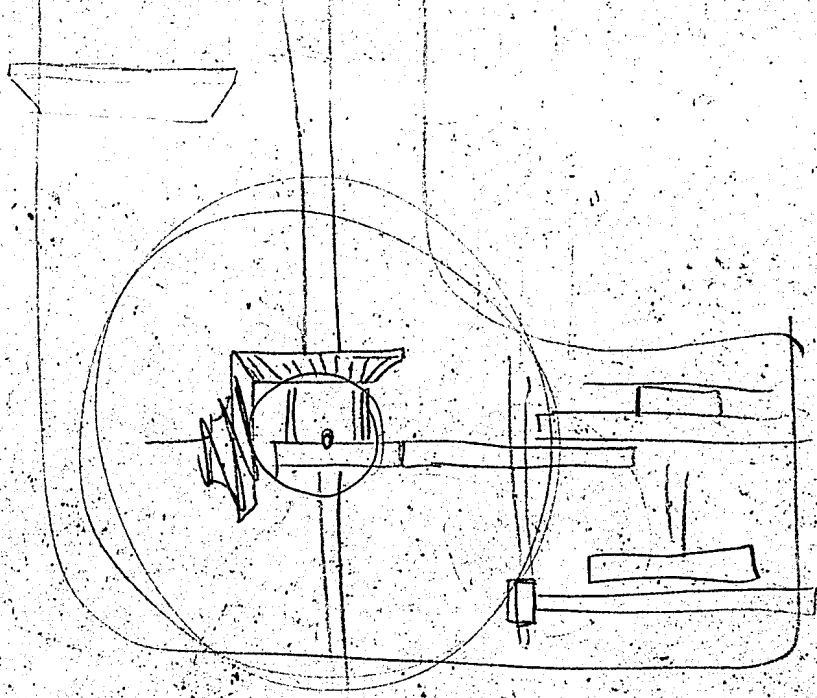


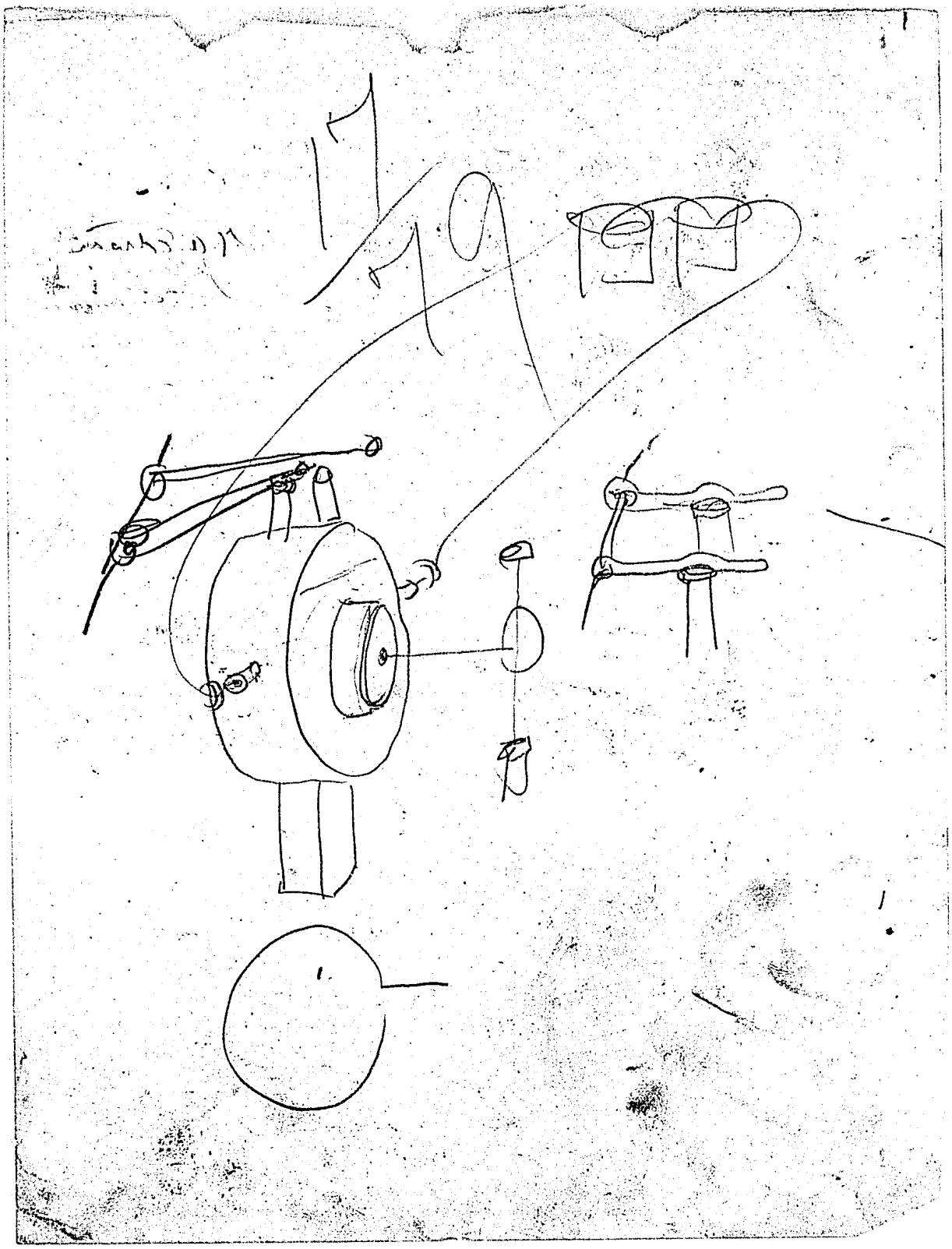


Speaking Cylinder Phonograph
Revolution of large cylinder 80 per min
Draves across in minute once
Drums 2 6/10 turns to minute
Small chain wheel 18½ to the turn
Weight drops in one minute (once ove cylinder)
24 inches
Table would have to be 2ft 6in high

Chas Batchelor
1360 inch
Apl 12th 1878
T A Edison
J Krusi
J F Ellsman
M M Force

Chas Batchelor





Phonograph

April 12 1878

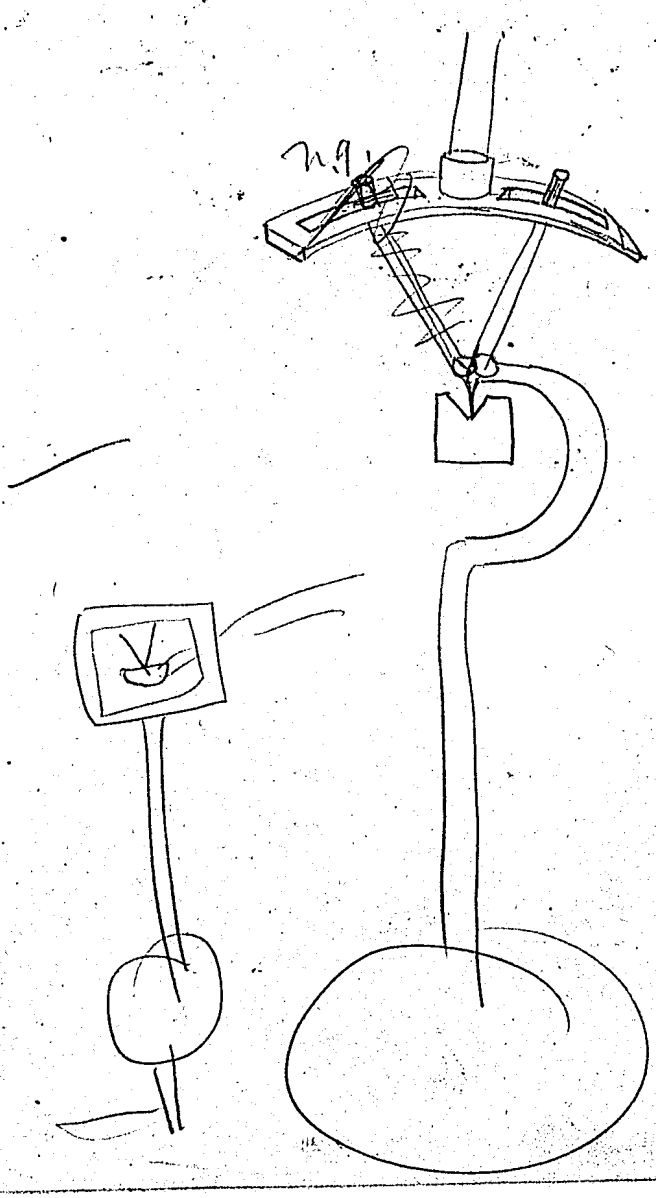
H A Edison

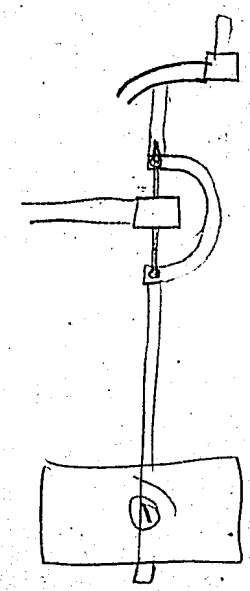
Chas Batchelor

J Kruesi

G E Carman

M D Force

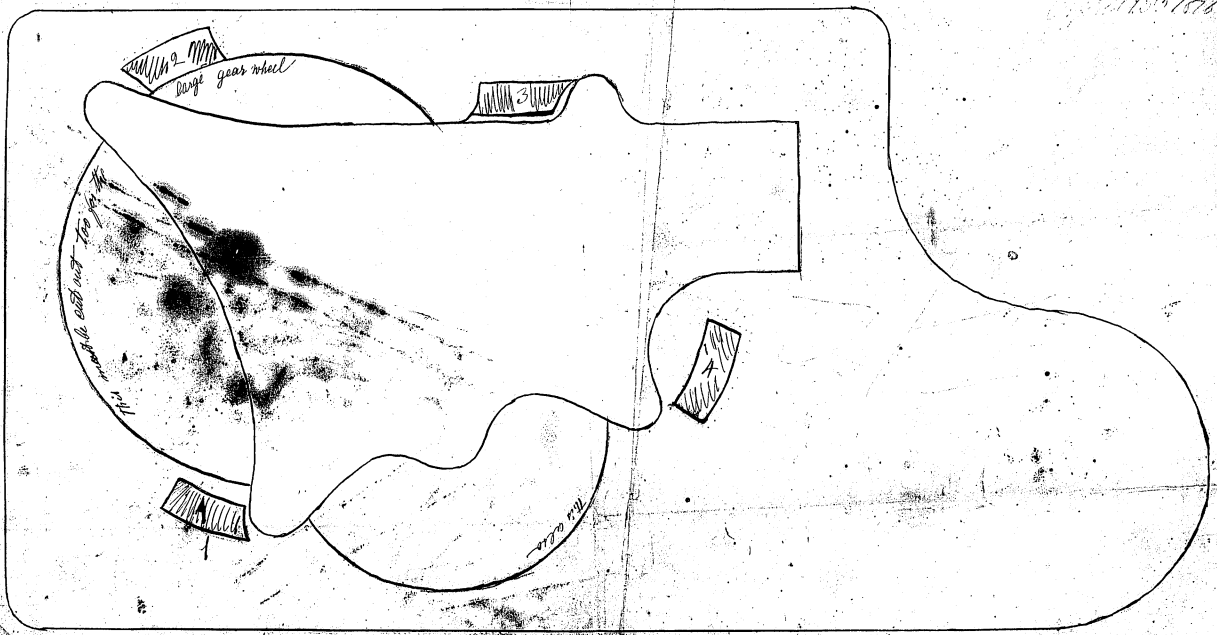




Tracing of Guide Plate Pattern

April 15th 1898
John Kruse

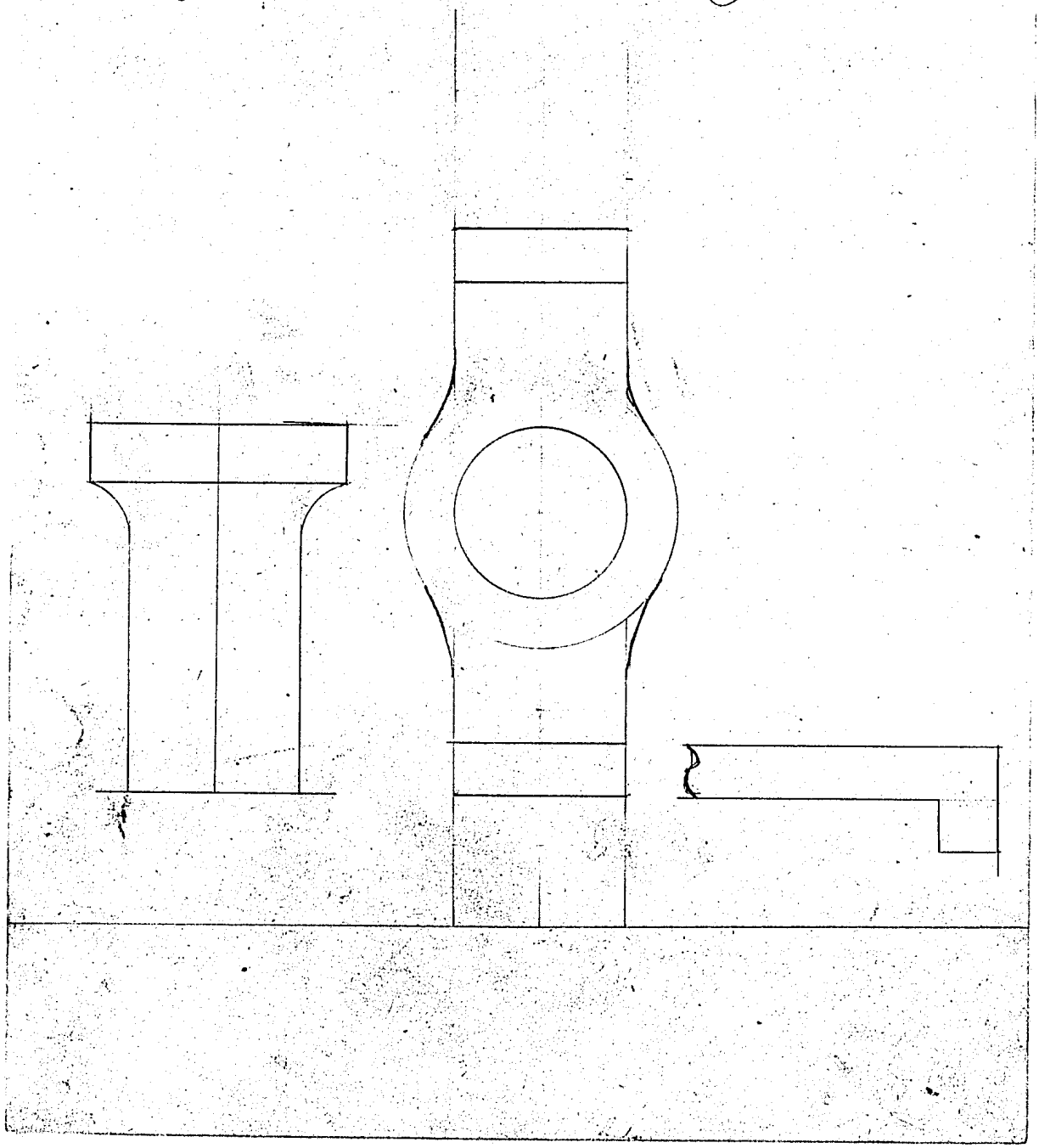
April 15th 1898



Pantograph. April 13th 1848

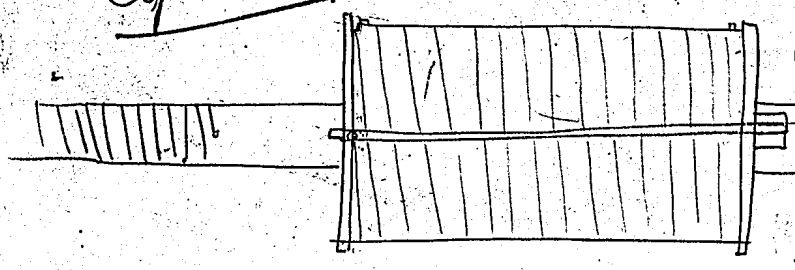
Pendulum bracket

J. Kinnear



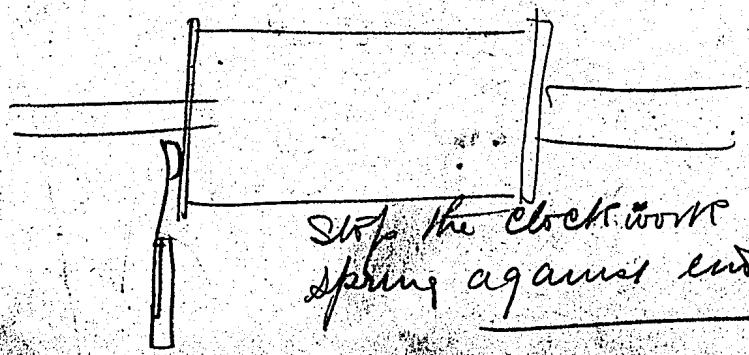
Speaking Phonograph
Apl. 26th 1878

Charbatchelor
J Kruesi
M G Pierce
F A Edison



groove must have certain position relation to thread
Pins for registering must be certain distance apart and certain distance from groove
Inside measurement of flange must be accurately measured between

In order to cut groove in right place drill small hole in cylinder by jig and set tool for thread by it, and also cut through it for slot, this hole when drilled at right distance (determined by jig) from flange will determine a point where the thread must pass through
cut down below surface for about 1/100 in order to start tool on thread.

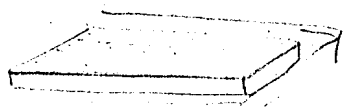


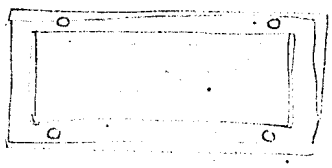
Stop the clockwork by spring against end of cylinder

Oct 31 1878.

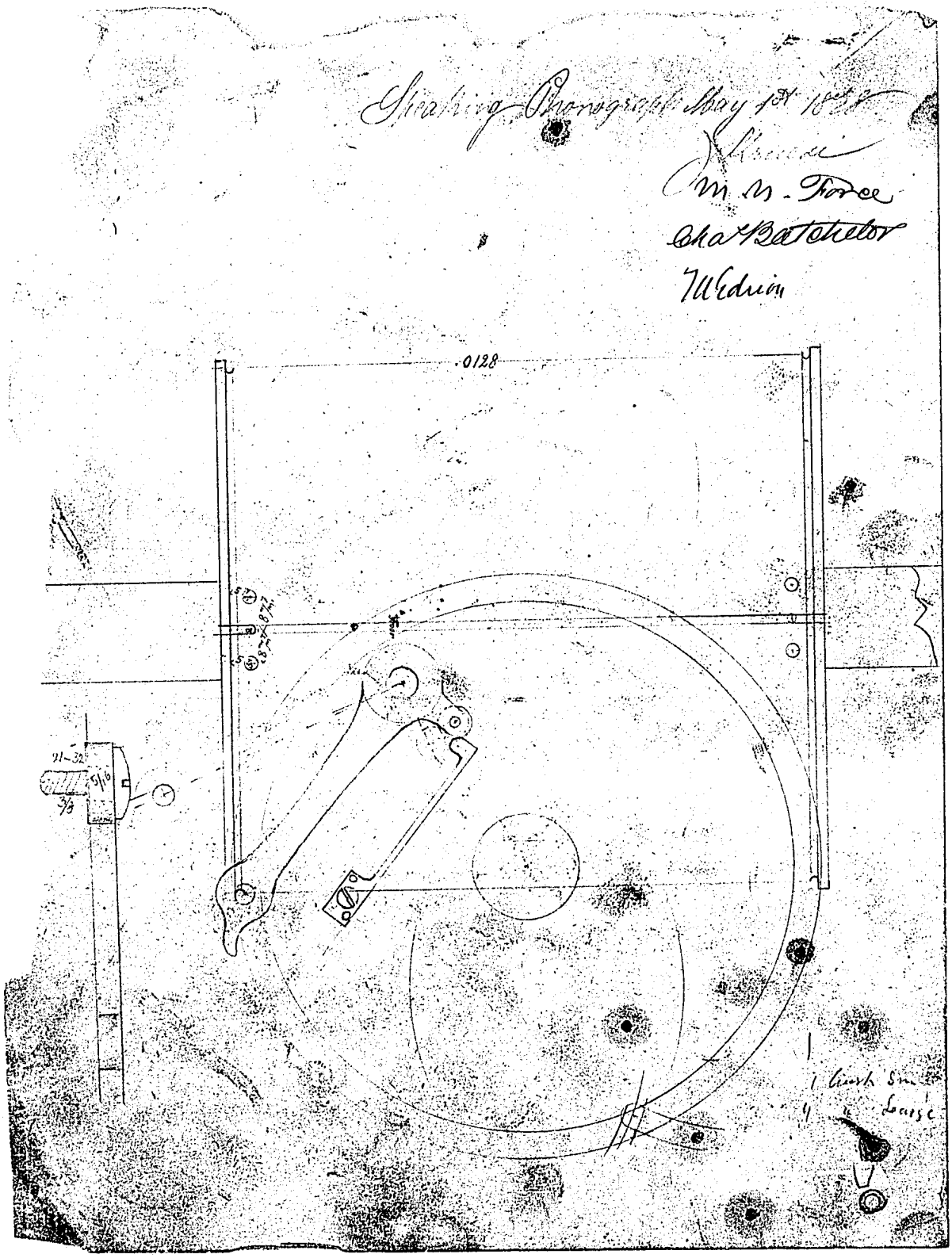
Depositing Sheet - Provisional

Chas Batchelor
Kruesi
M. M Force
T. A Edison





After many experiments we have established that face the method [illegible] that the forthcoming one is the best = A plate showing of the sheet has grooves planed in it corresponding to the thread on the cylinder or plate. On this plate is laid a sheet previously indented, the raised dots showing in the grooves. a frame fits over this like the printer uses for locking up Type forms


Starting Ornograph May 1st 1852
Steam
M. S. Force
Chas Batchelor
McGuire
.0128
91-32
91/16
3/8

Speaking Phonograph

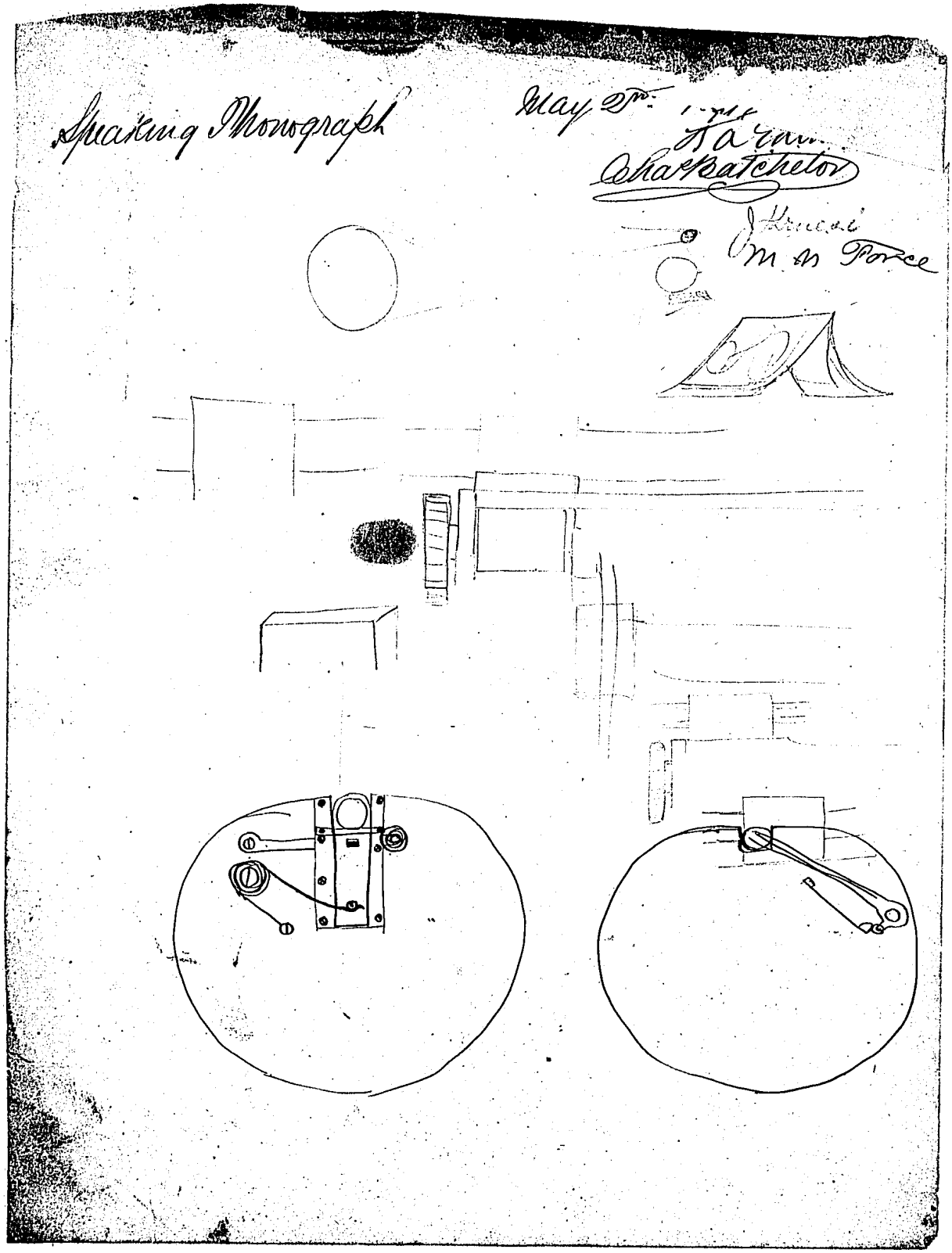
May 27th 1878

Taran

Chas Batchelor

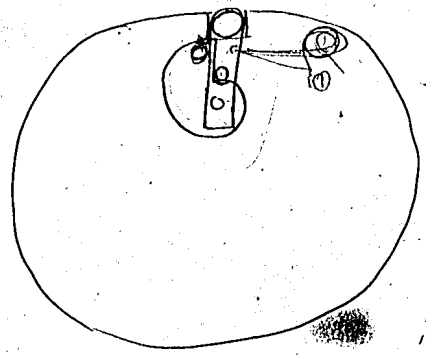
Lieut

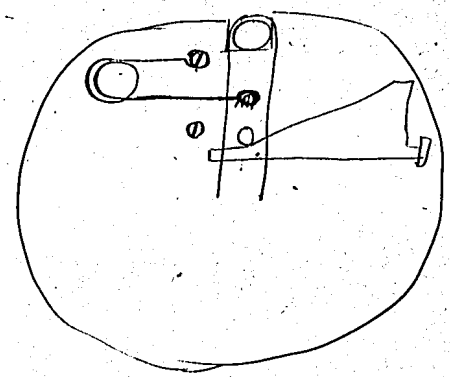
U.S. Army

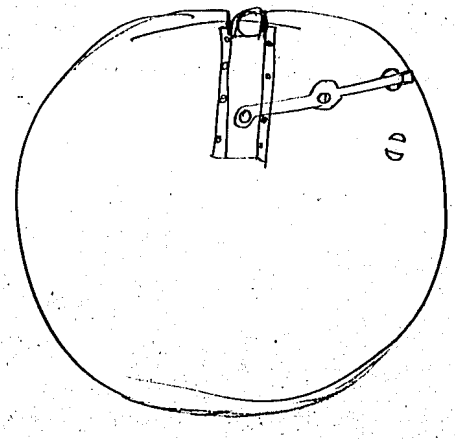


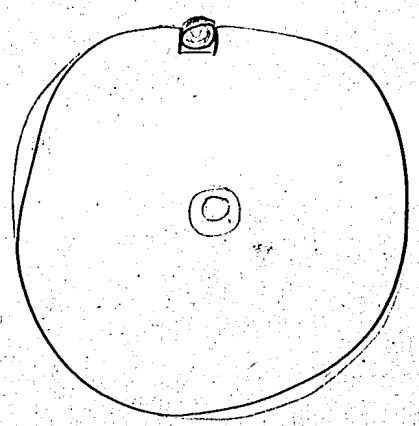
Speaking Phonograph

May 9th 1878
1st Edition
Charles Batchelor
Jr Assistant
Mr A Forbes





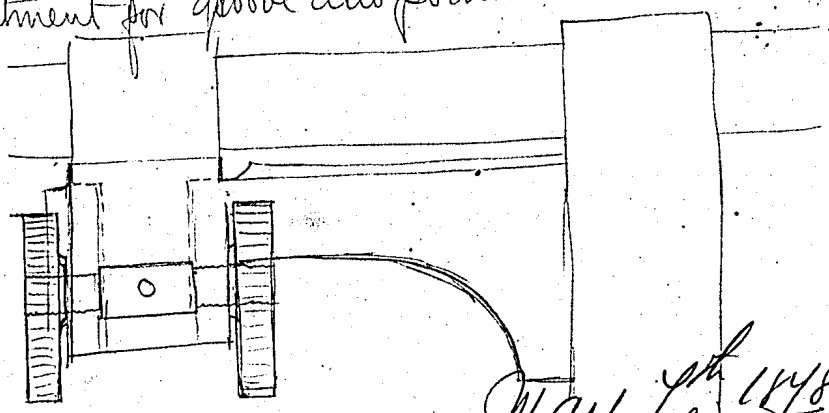




Speaking Phonograph May 4th 1878

Chas Batchelor
T A Edison
J Kruesi
M. D. Force

adjustment for groove and point —



May 4th 1878

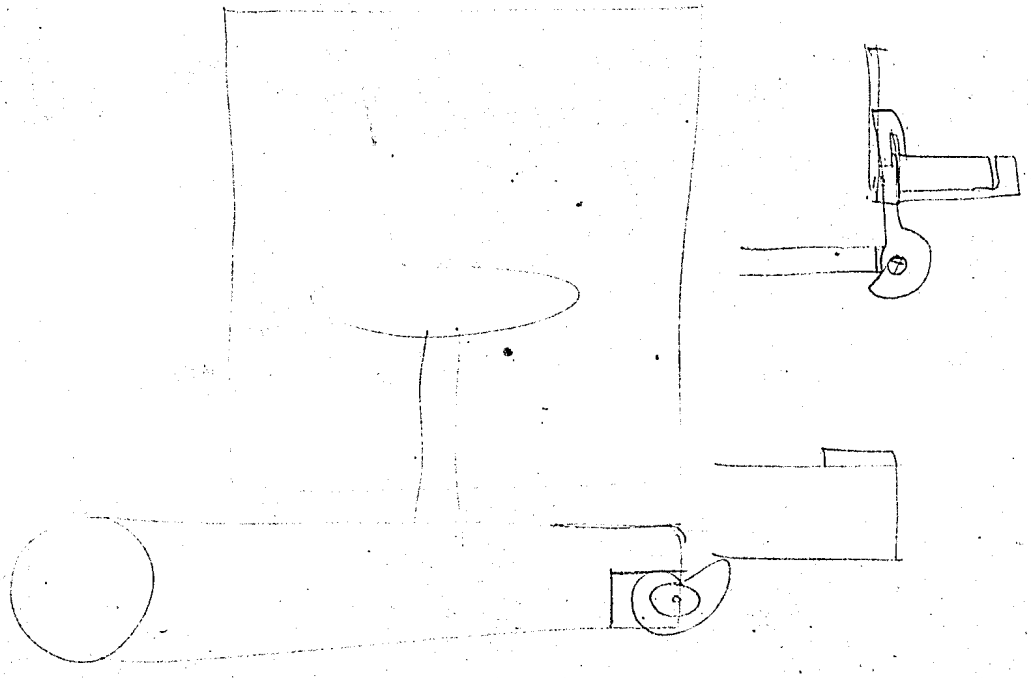
Note In Phonograph when you speak the high tones like vowel sounds go deeper in & sound thick and consequently are deeper in proportion & then length, & the spring may not go to the bottom of these as nearly as shallower so if you had a cast or electrotype of wrong side and worked with strong spring the ones that were deepest vowel sounds would make most noise: But still the vowel sounds are now the strongest vibrations and we get the strongest sound from them & are trying to weaken them or remove the weaker ones.

C Batchelor

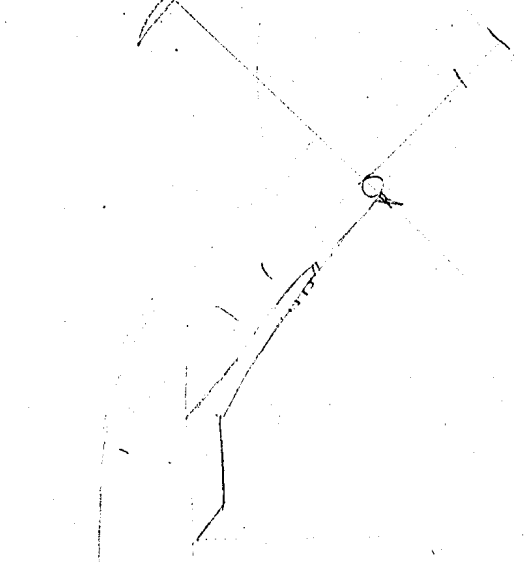
Spraker's Monograph May 4th. 1878.

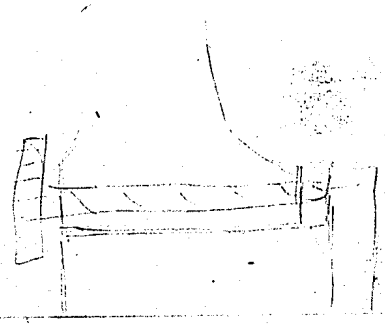
A Edwin
Chas Barker

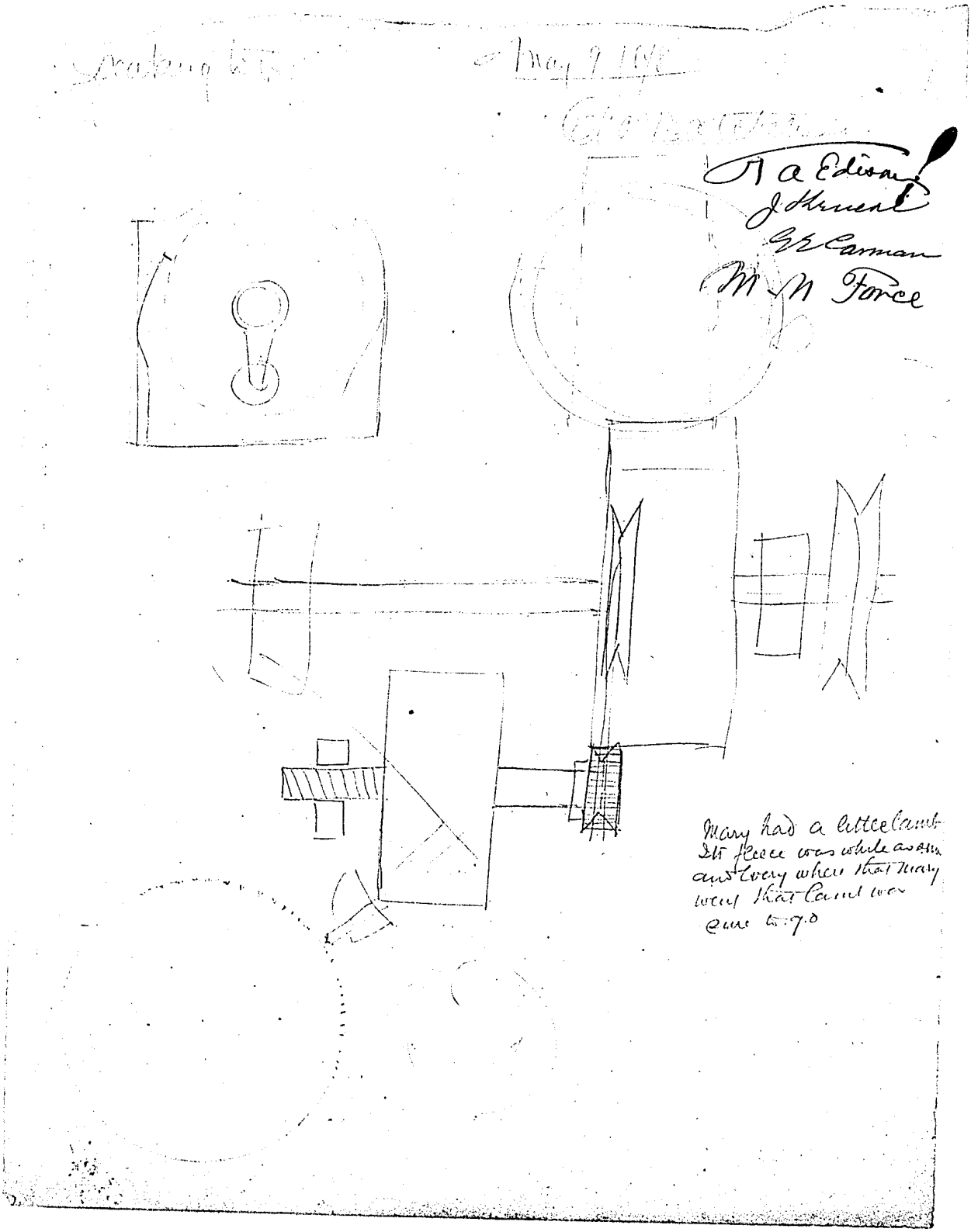
Sent
in a Piece



Speaking Phonograph
Aug 5th 1878





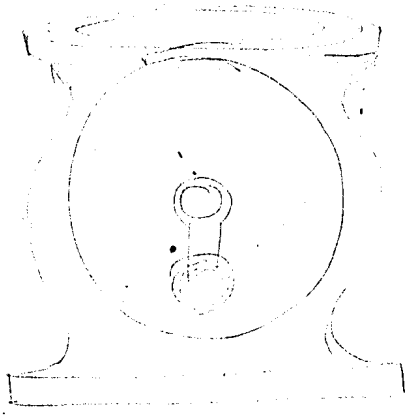

To Edison!
J Krueger
E E Carman
M M Force
Mary had a little lamb
Its fleece was white as snow
And everywhere that Mary went
That Lamb was sure to go

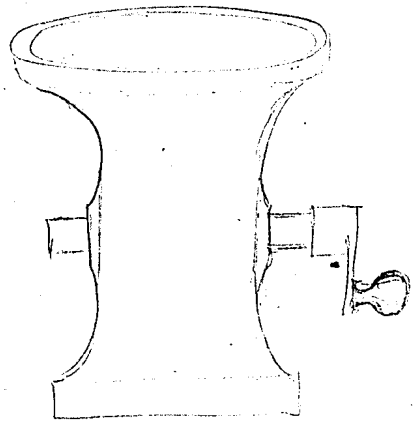
Heating Tops

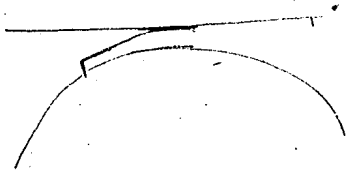
May 9 1876

Chas Satchell

T A Edison
J Kruesi
G Carman
M N Force







Speaking toys May 6th 1878

12 feet at least of indents

cylinder 2 3/4 = 17 turns

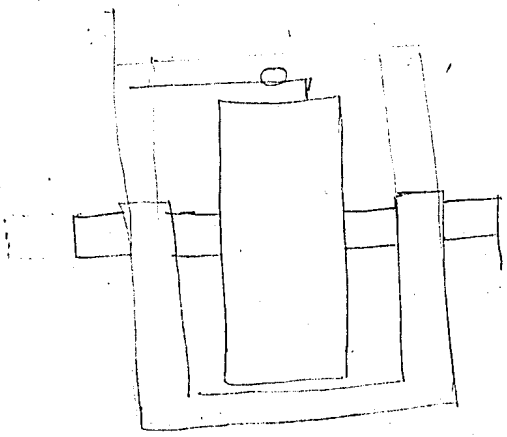
Chas Batchelor

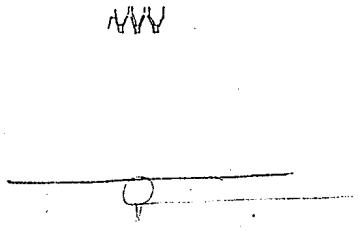
T A Edison

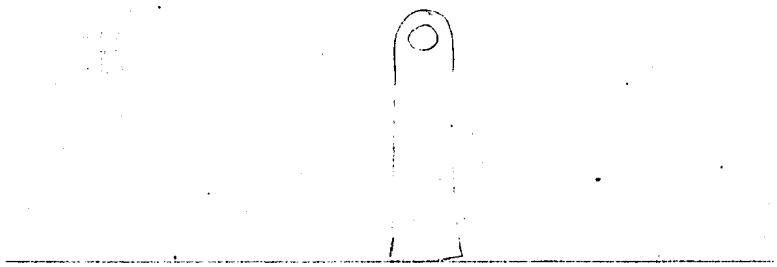
J Kruesi

Ezra Common

M. M. Pierce.



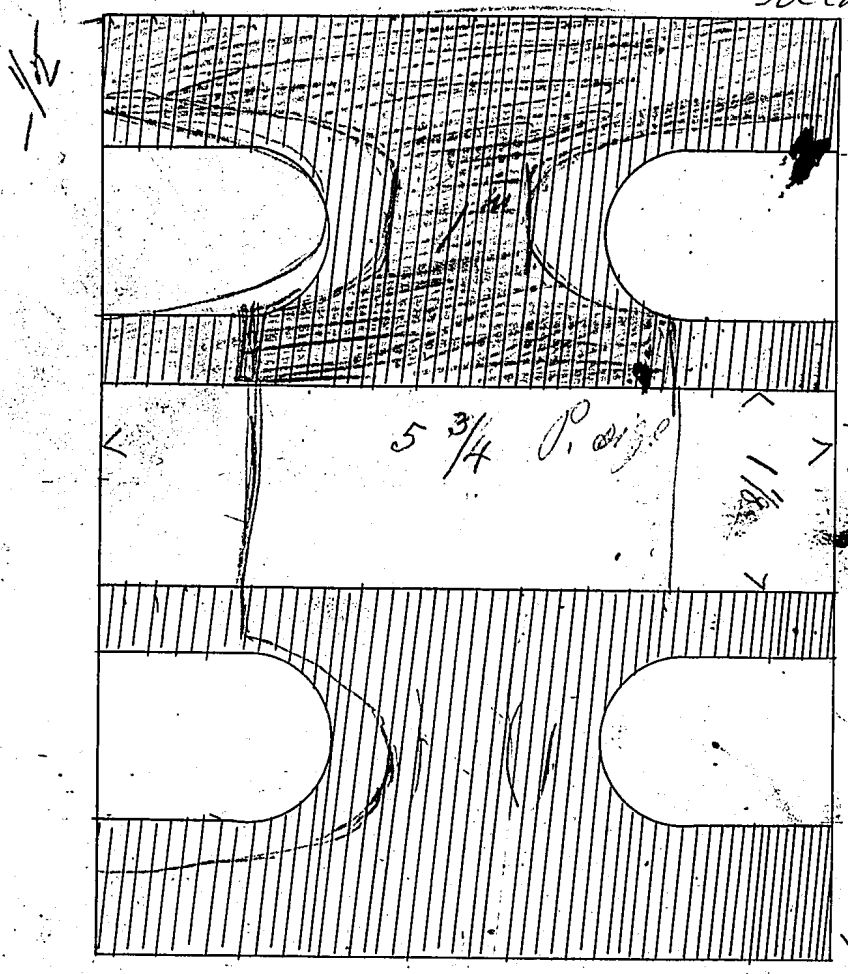




Sketch of Phonograph. May 10th

Pattern for cylinder (Hammachine)

Phonograph
J. Kruesi
M. H. Force
Th. Edison

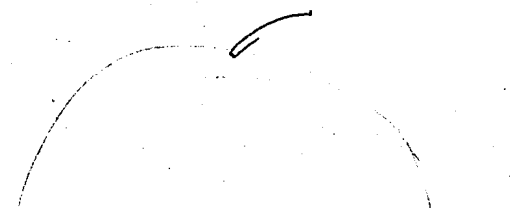


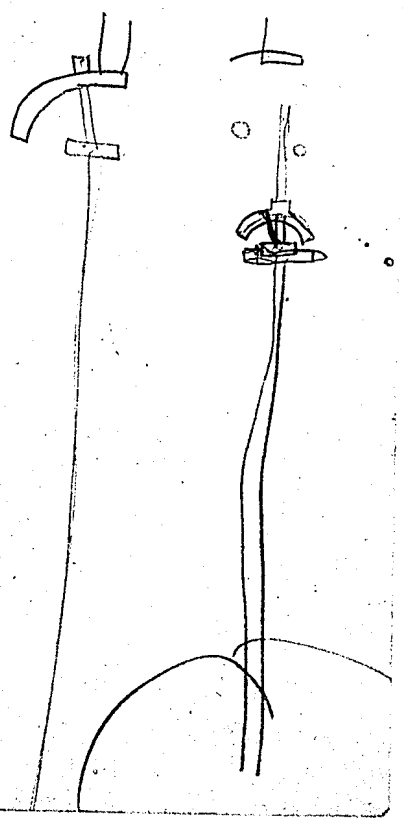
Photograph

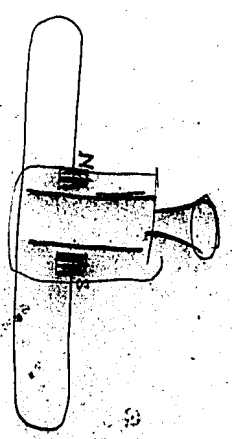
May 10 1898
7 a 2

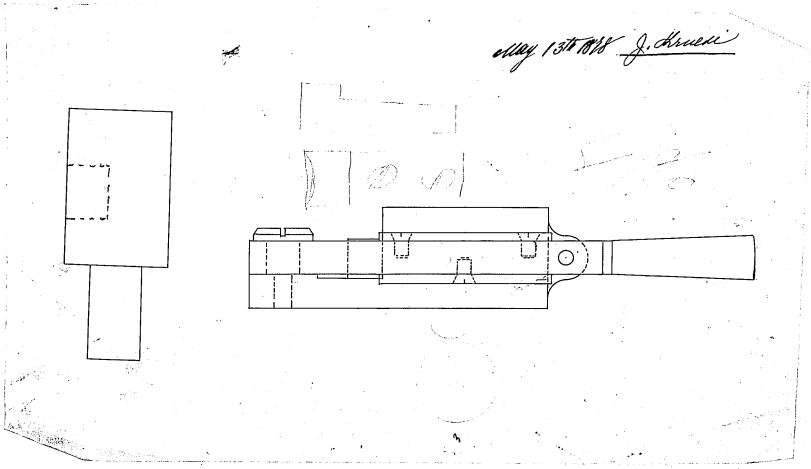
Chas Batchelor

J Kinnear
G Cannon
M A Force

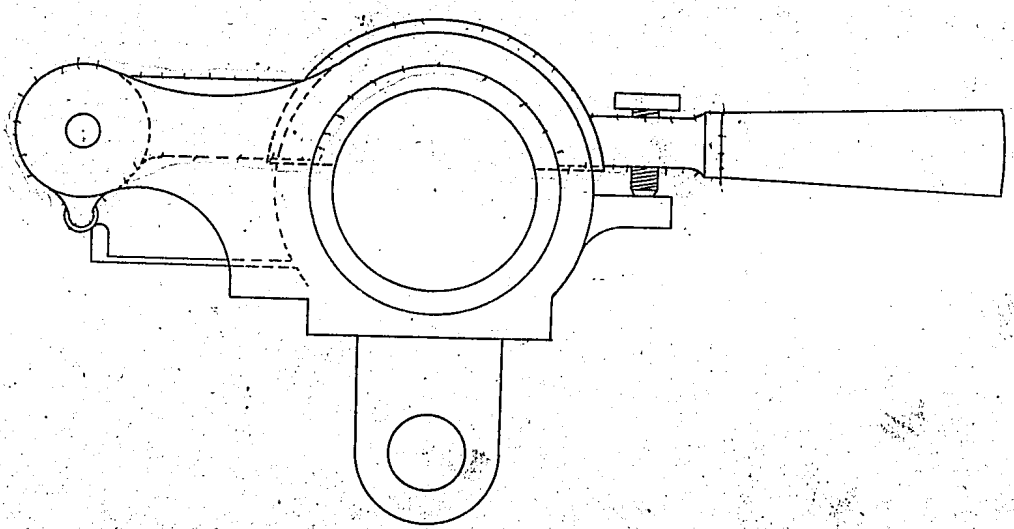


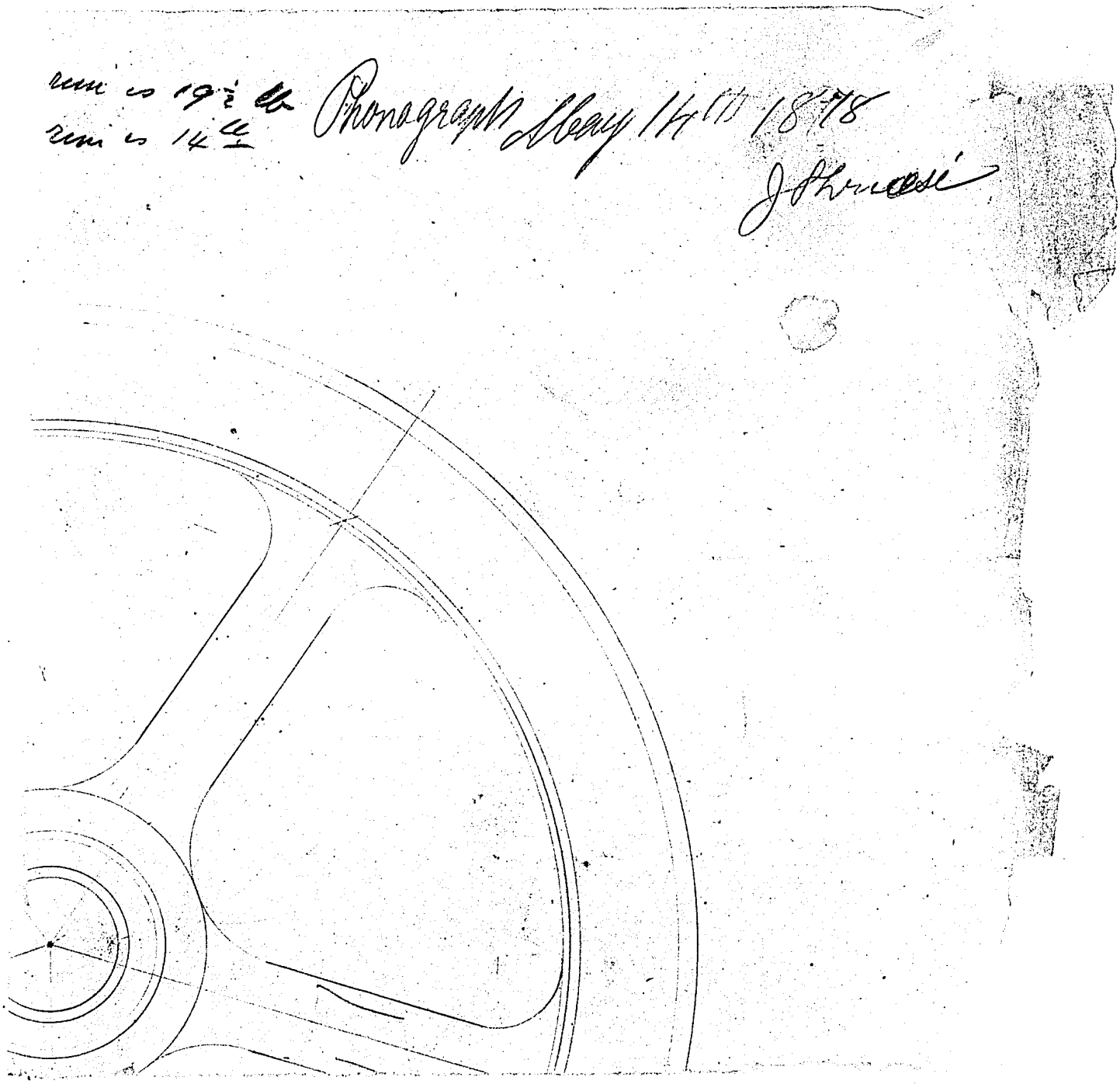




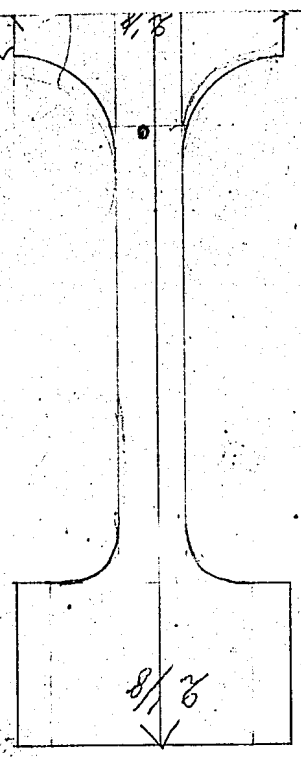


May 14th 1828 J. Hewett




Phonograph Diary 14th 1878
J Kennedy

66



ft. To year 10 inc a ft.

May 15th 1878.

J. Kruesi
M. H. Fiore
Chas Batchelor
T A Edison

Alterations on Bergmann Phonographs.

I. Make boring bar with 2 cutters to bore out bearings on Thos shoe.

II. Put bearings out to 1 3/32 in Diam.

III. Make bearings of cast steel, harden glass hard, bore inside & ground outside to cutter in lathe tight

IIII Turn shaft a short Distance back to free steady rest, turn cylinder off out near thread UUU this shape, take burrs which arise in cutting threads off & smooth surface.

V. Turn shaft off to fit bearings tight

VI Put mandrel together & see that range working shaft lengthways on till it revolves free enough.

VII Put arm & screws to work tight & put dampening screw in with piece of leather

VIII Cut in new point & round off point clear to steel.

VIIII Make pins for adjusting

100

Phonetic Phonograph May 16th 1888

J. Ehrman

Chas. Batchelor

Pattern size 5-3/4

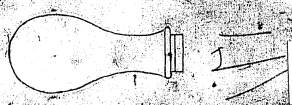
3 9/16

3 1/2

B. H.

B. H.

May 16th 1888 J. Ehrman



101

102

Message

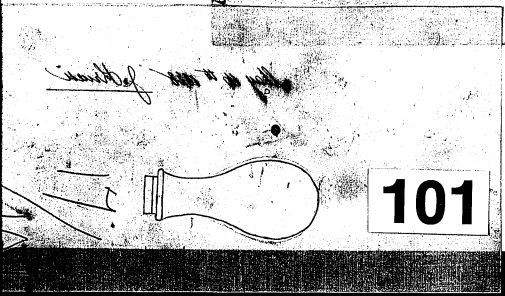
Fr. New York to T. A. Edison –

Would like to see you will you be in the city today and where or shall I run out

sig. John Tom

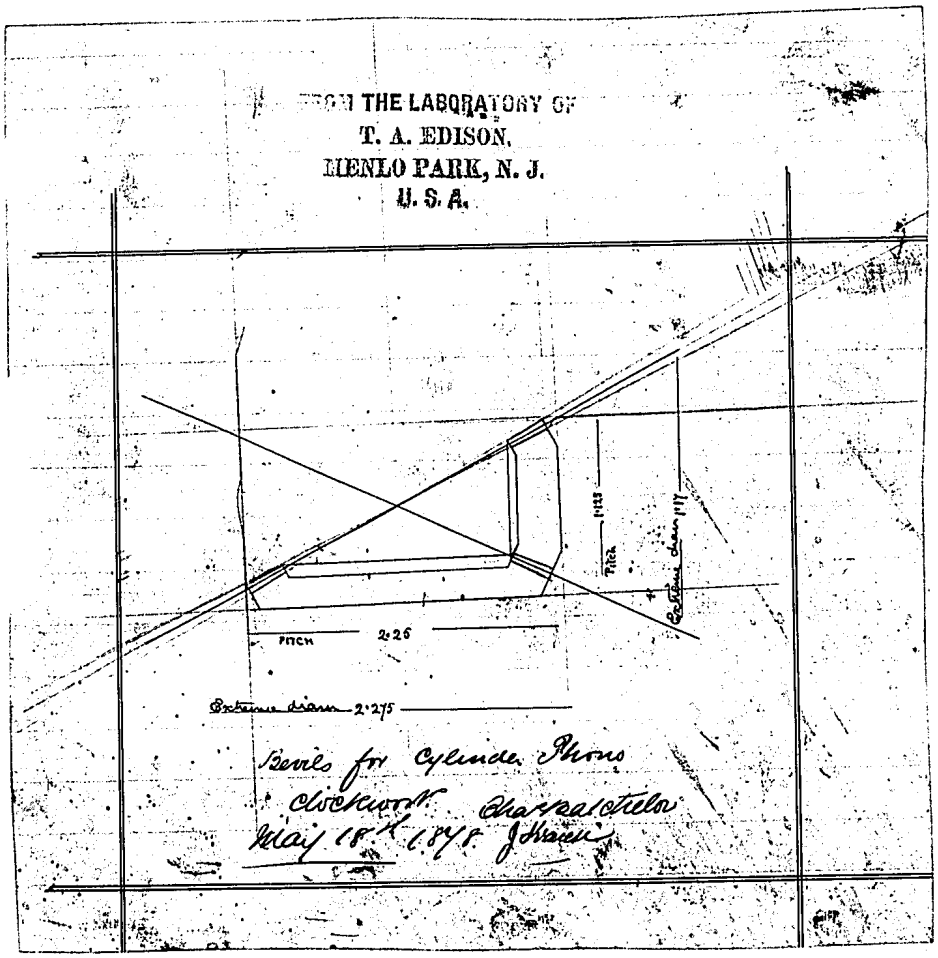
answ From Boston

17/102

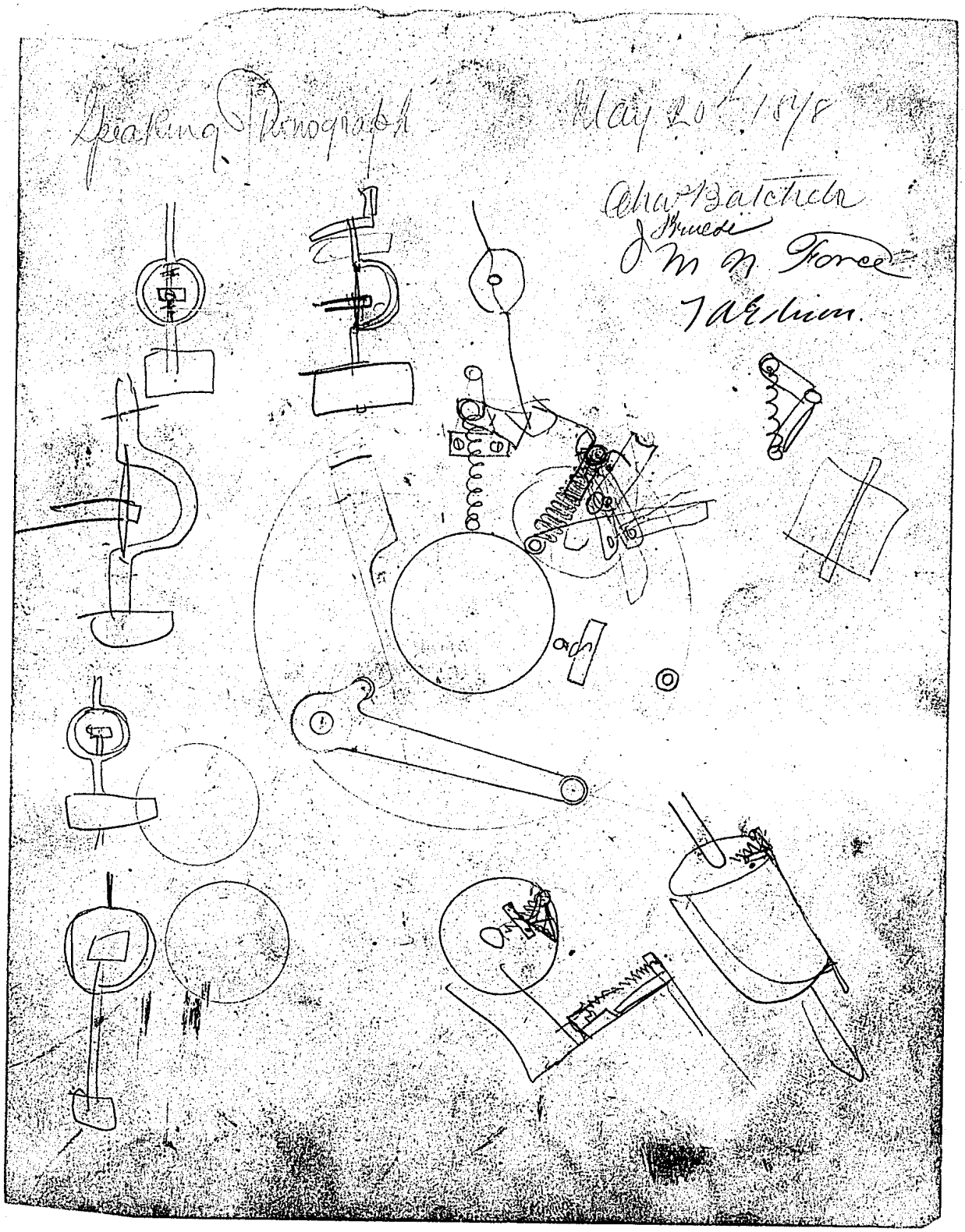


102

101


FROM THE LABORATORY OF
T. A. EDISON,
MENLO PARK, N. J.
U. S. A.
PITCH
2·25
Bottom diam 2·275
Rollers for Cylinder Phono
Clockwork. Chas Batchelor
May 18th 1878 J Kruesi

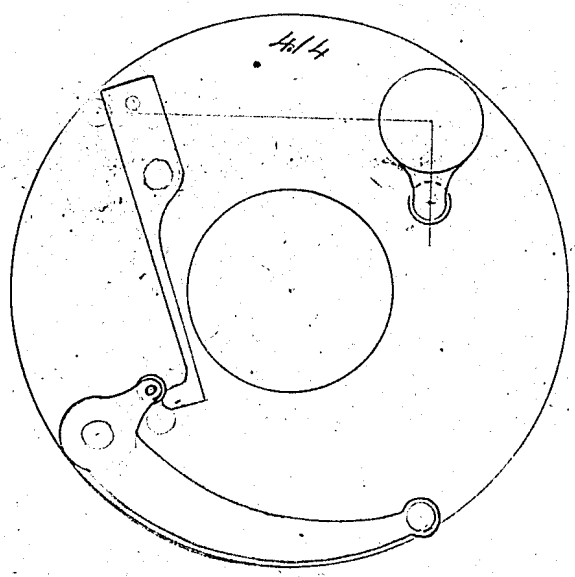
104


Speaking Phonograph
May 20th 1878
Alex Bell
Watson
J. Kruesi
M. H. Grosvenor
Tainter

Speaking Phonograph May 25th 1878

Charles Batchelor
J. Krusi
M. D. Ford
T. A. Edison

4/4



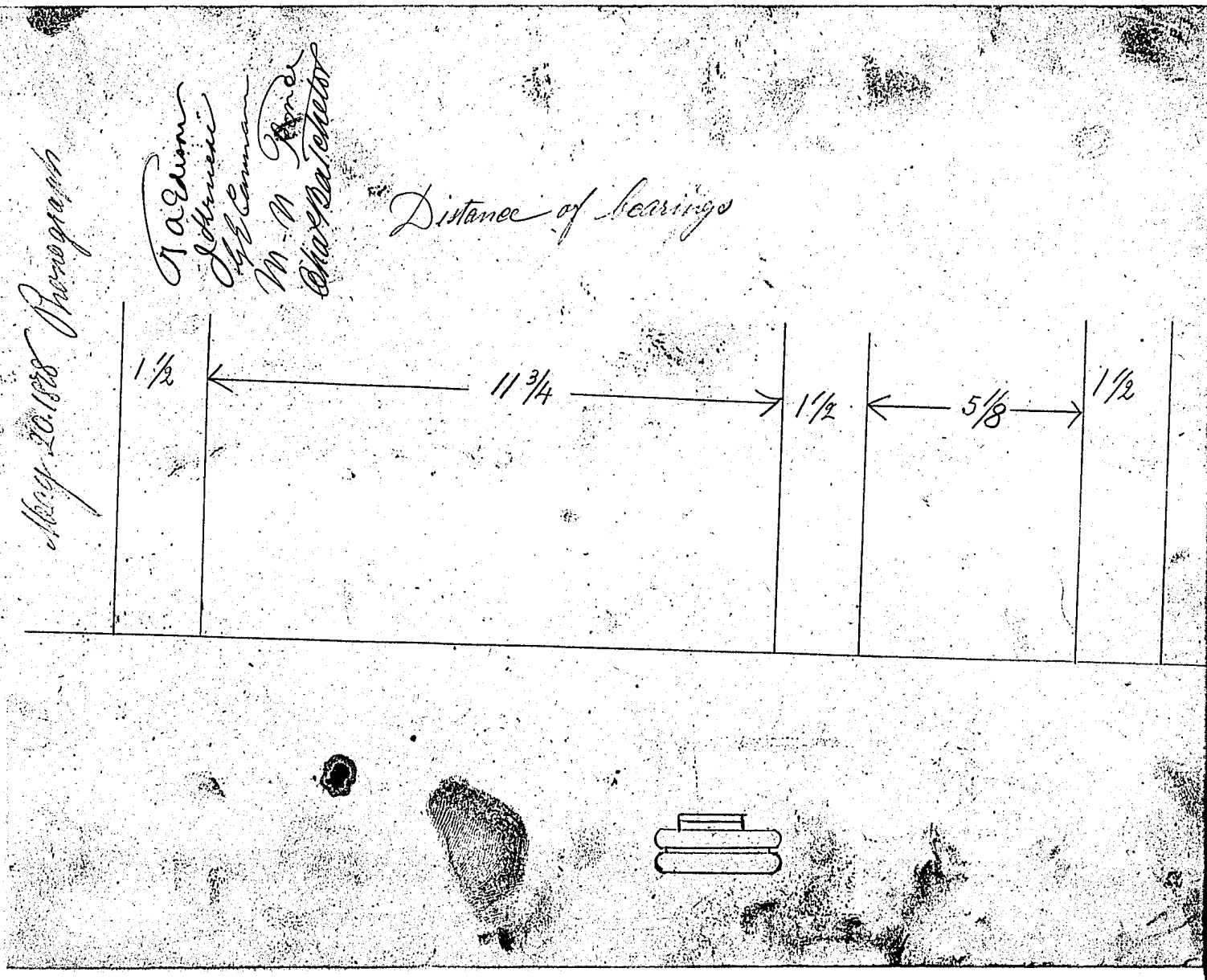
4

106

May 20 1878 Photograph

T. A. Evans
L. Johnson
H. H. Eberman
W. M. Ford
Chas. Bartleson

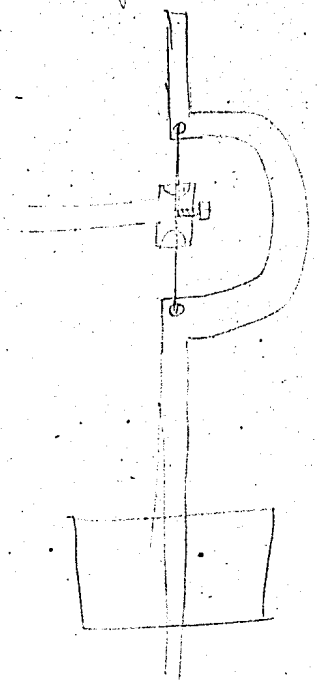
Distance of bearings



107

Speaking phonograph May 24 1887

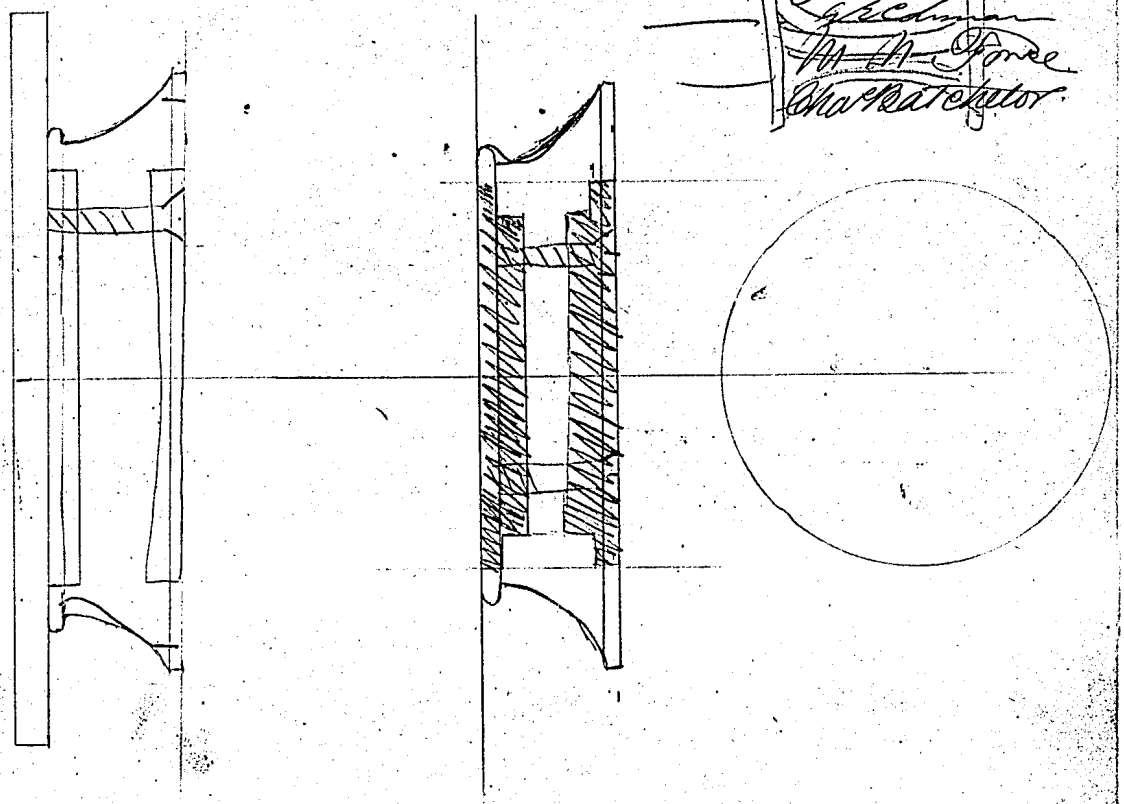
T. Adam
J. Krueger
E. Lamm
W. B. Jones



Speaking Phonograph

May 24th 1878

T. A. Edison
J. Krusi
Geo. Gouraud
W. H. Forbes
Charles Batchelor



Speaking Phonograph

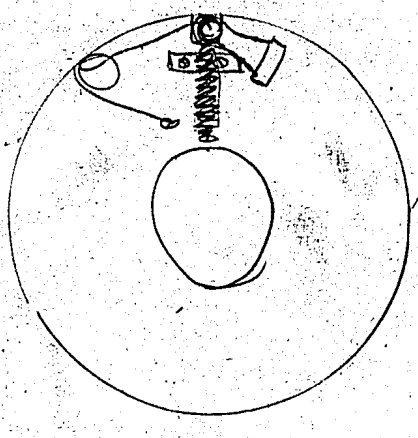
May 28th 1878

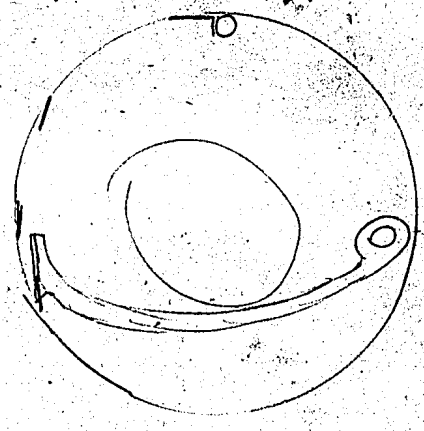
Yardley

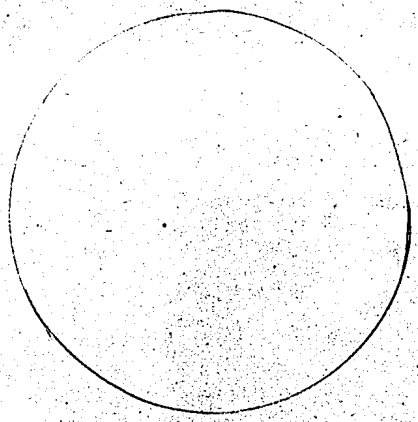
Old Batchelor

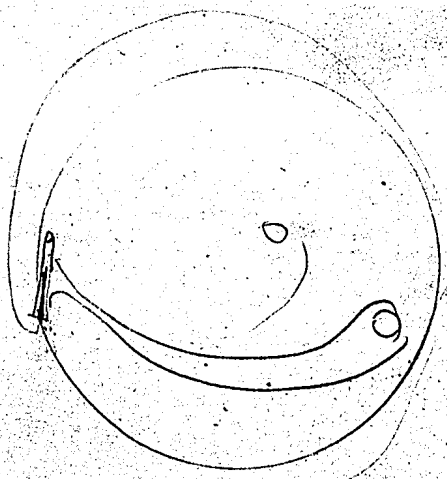
Johnnie

Ons on Force









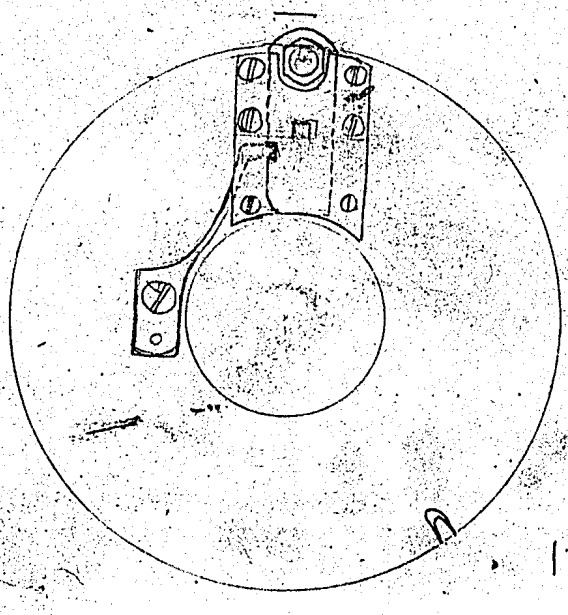
Phonograph. May 30th 1878.

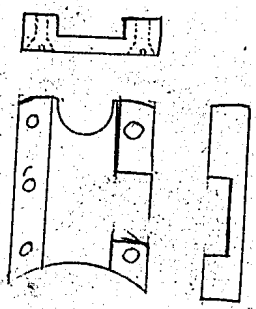
J. Lemuel

Chas. Batchelor

M. M. Power

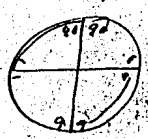
T. A. Edison

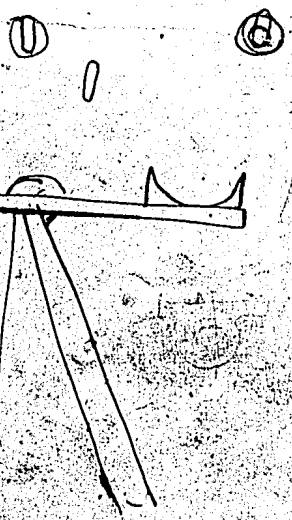




105

111





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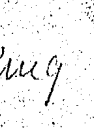
Speaking Monograph — May 31st 1878

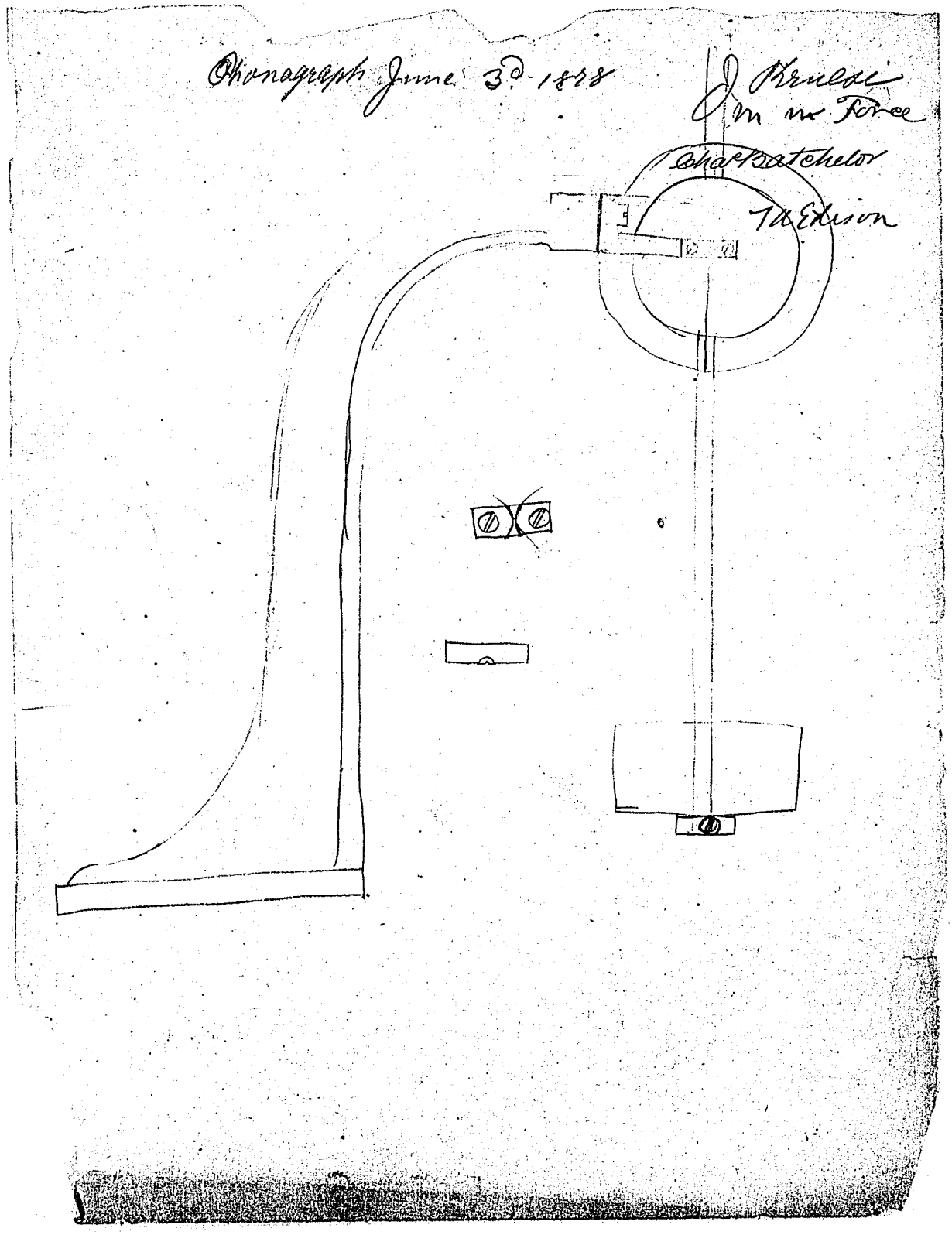
Chas Batchelor
T A Edison
J Kruesi
G E Gouraud
M D Rowe

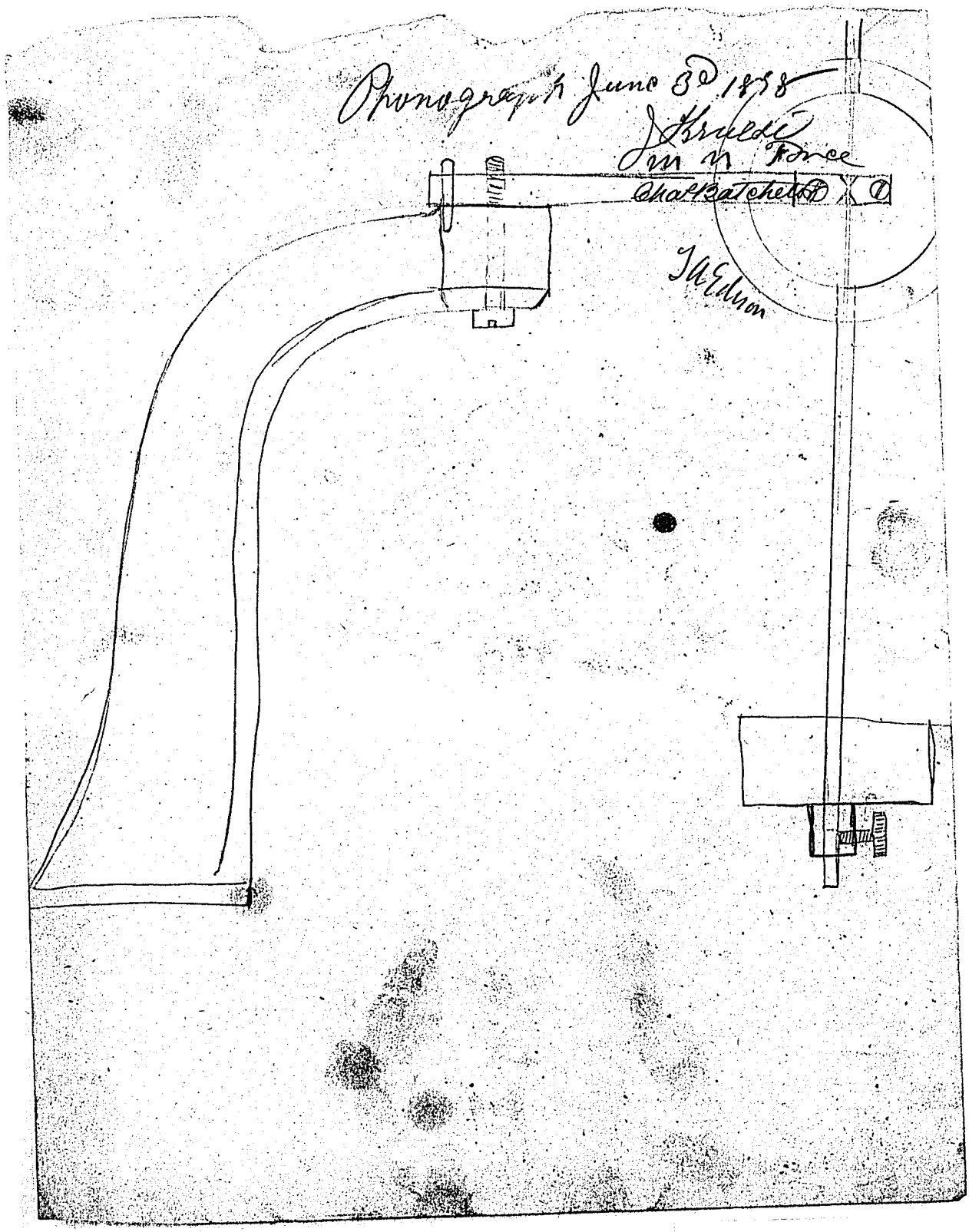


Lever for holding glass point. Platinum top and regulated with screw.

Shaft 9/16 long.
Lever 1" long from centre to centre
point less than 3/32 long.

113


Phonograph June 3d 1878
J. Krusi
M me Force
Chas Batchelor
T.A. Edison


Phonograph June 8th 1878
J. Krusi
Chas Batchelor
T.A. Edison

Speaking Phonographs

June 9th 1878

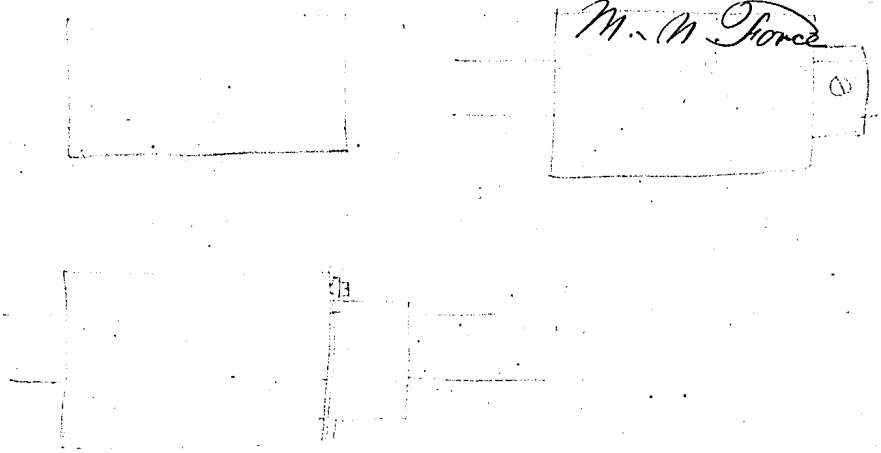
Alexander Bell

T. A. Edison

J. Kruesi

G. E. Carman

M. N. Force

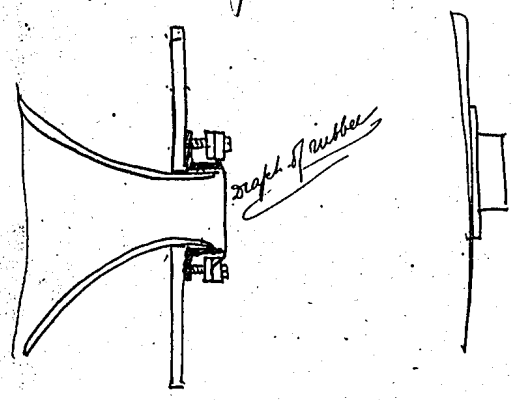


Cylinder has on shaft and other means to adjust so that it can be adjusted without any adjusting nuts.

Speaking Phonograph June 11th 1878

Chas Batchelor

Mouthpiece for Phono-



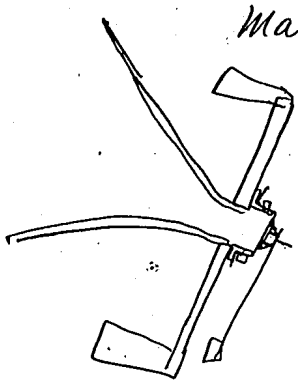
Tae

118

Laboratory of
Thomas A. Edison
Menlo Park, N.J.

June 11th 1878
J Kruesi

Make diaphragm and mouthpiece for Phonograph like this



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Speaking Monograph June 14th 1878

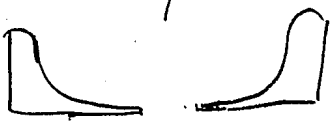
Experiments to get the hissing consonants reproduced better

Alexander Melville Bell
Marion N. Forbes
J. Hansen
T. A. Edison

1 Mouthpiece Sh and hiss

used at first no good

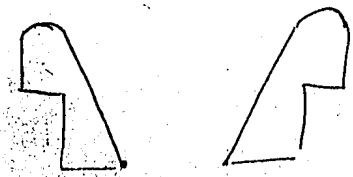
2 Made mouth piece like this better hisses but not good



3 put watch spring crossways in No 1 mouth piece ⊖ - watchspring ~~Sh~~ no better than No 2

4 put in 5 springs like this - no better

5 Made mouthpiece with larger hole and steep incline no better Sh's than No 2



turn over 2 pages

6 Speaking Phonograph

June 14 1878

Charles Batchelor
Machine Tool

6 Took mouthpiece No 5 and pasted card on bottom and talked to it got it good but too low.

7 Perforated card put on in No 6, perforated with pin a number of times (about 25 holes) and talked through it, I gave the 'ishes' very plainly and I got excellent talking without any dampening of the diaphragm

8 Made double diaphragm of Ferro-type plate but see nothing in it Diaphragms ¼ apart.

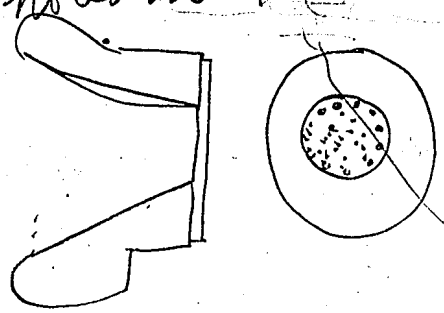
9 Perforated a number of small holes in the one nearest the mouth but it gave no better talking and nothing like experiment No 7

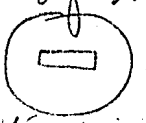
CBB

10 Phonograph Speaking

June 7th 1878
Jacobson
Shrieve
Chas Batchelor
Martin N. Force

10 Fastened a number of wires on bottom of mouthpiece so:- but no better result

11 Put solid piece of rubber on bottom of mouthpiece with number of perforated holes in so:-  This does not work as well as the cardboard in No 7 perhaps it was because the cardboard had the burrs sticking up towards the mouth

12. Put on bottom of mouthpiece discs with slot in so  and finally filed the 3 slots to a bevel edge so and turned it round and both sides to mouth no better

Speaking Phonograph

13

June 14 1878

T. A. Edison

Chas. Batchelor

Madison Jones

13 Try a number of mica discs 10 inch apart with hole in middle M. H. Force

Result

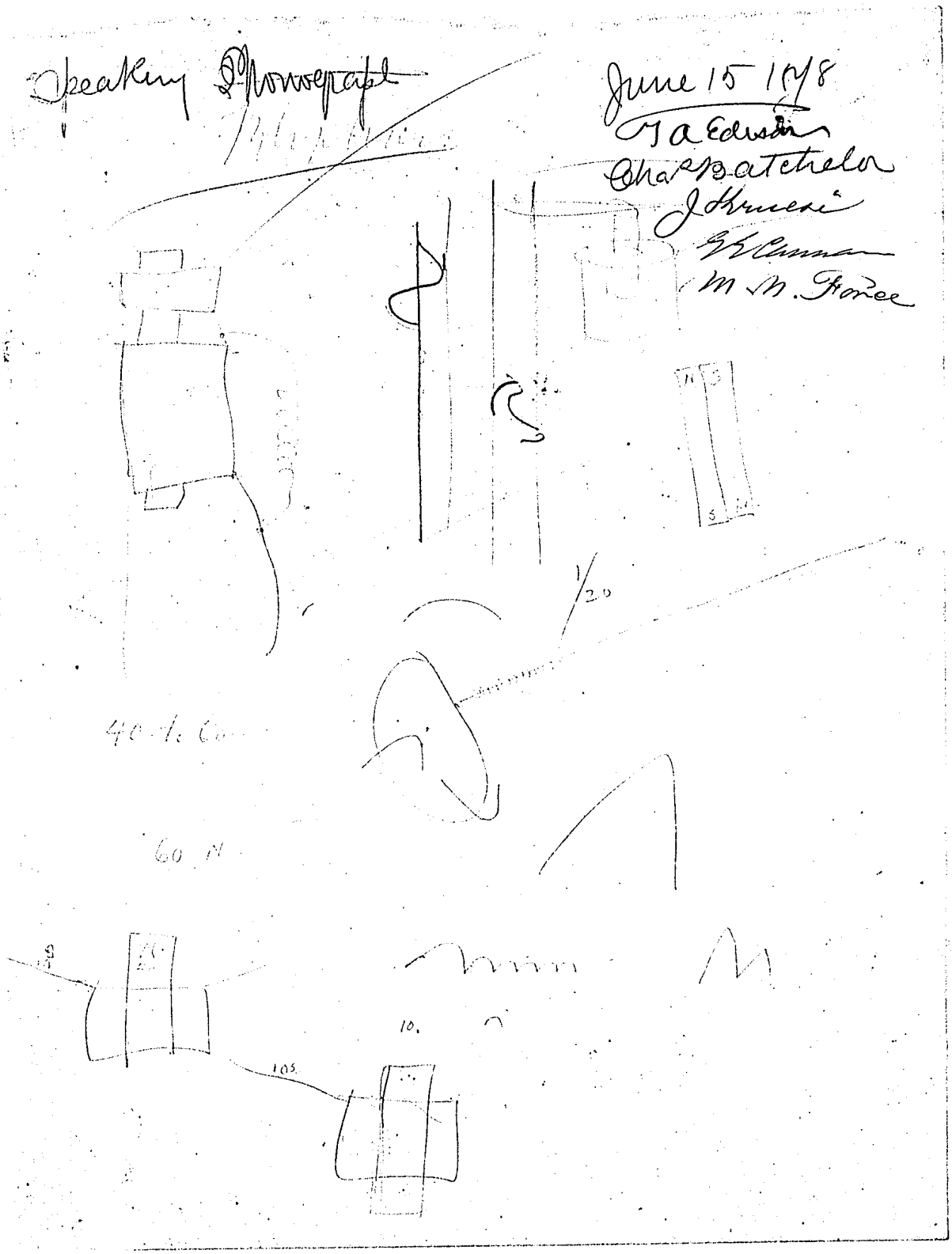
14 Try dampening the diaphragm when point is rigid on diaphragm

Result

Speaking Phonograph

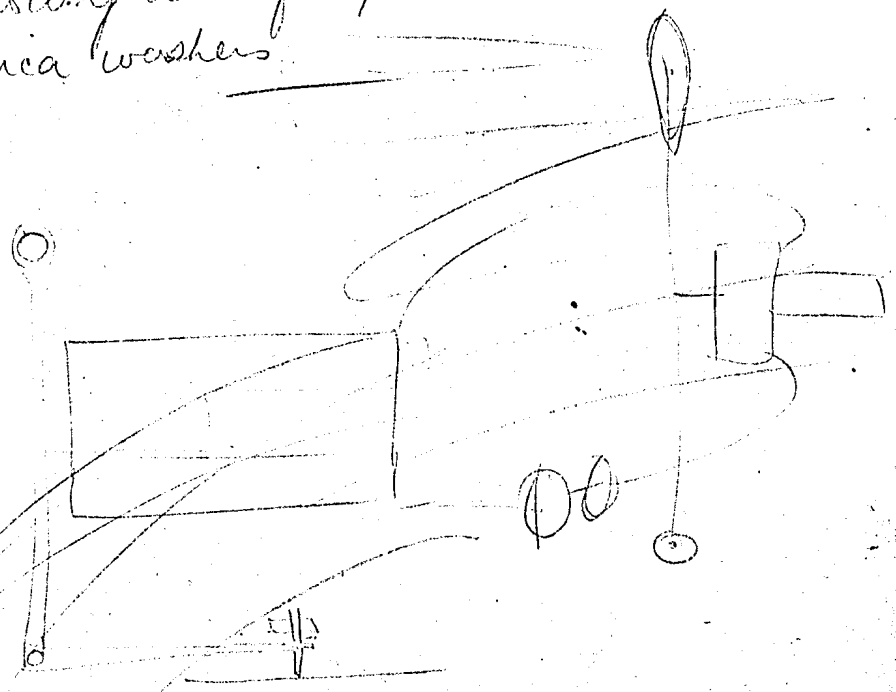
June 15 1878

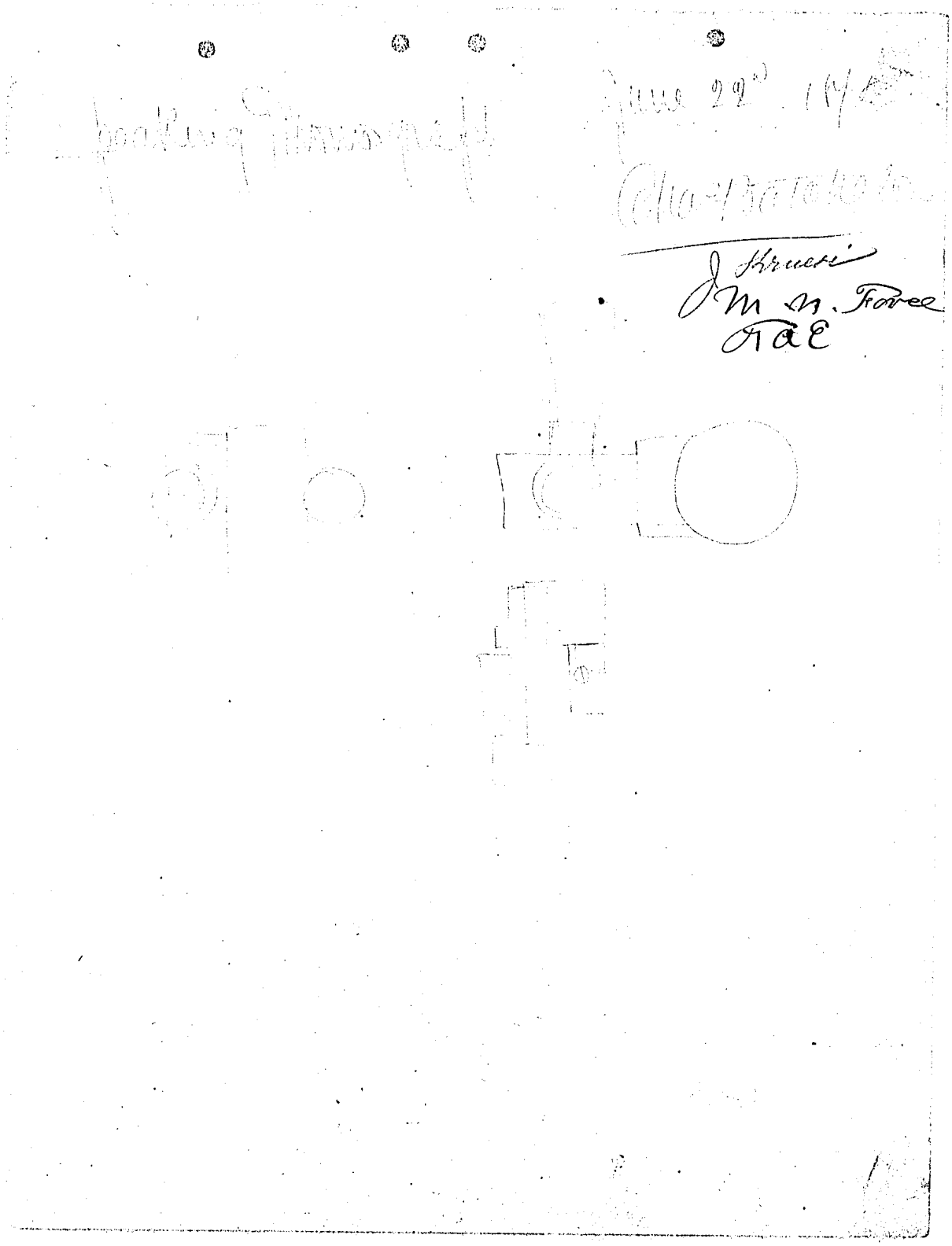
T A Edison
Charles Batchelor
J Kruesi
E H Cunman
M N. Force



Speaking Phonograph June 18th 1878
T. A. Edison
Chas Batchelor

Make point on diaphragm ~~Johnson~~ Jones
Make mouthpiece on large diaphragm for Phone
Make mouthpiece for Phone and make
6 mica washers





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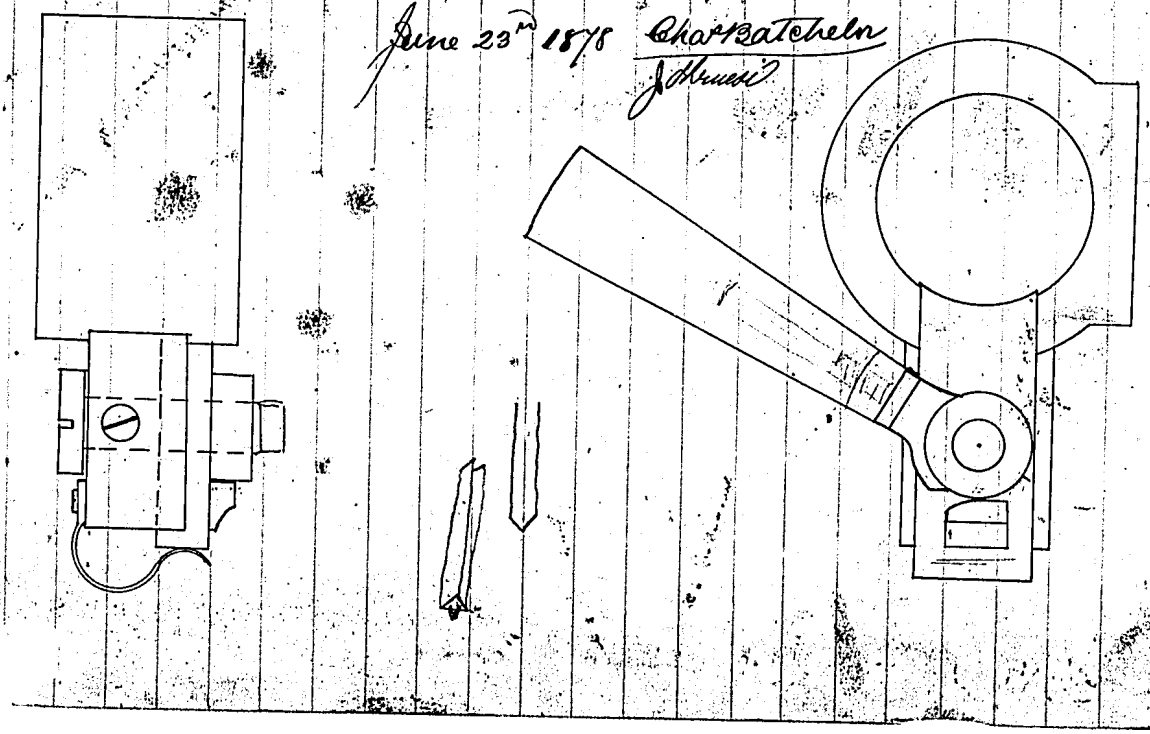
New 'throw-out' device for
Edisons Hand Monograph.

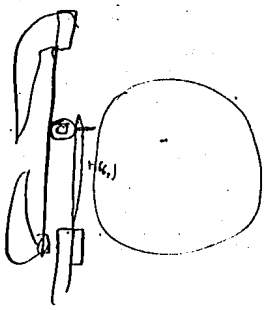
June 23rd 1878 Charlsatcheln
J Arnoux

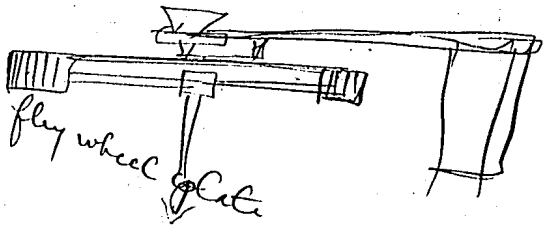


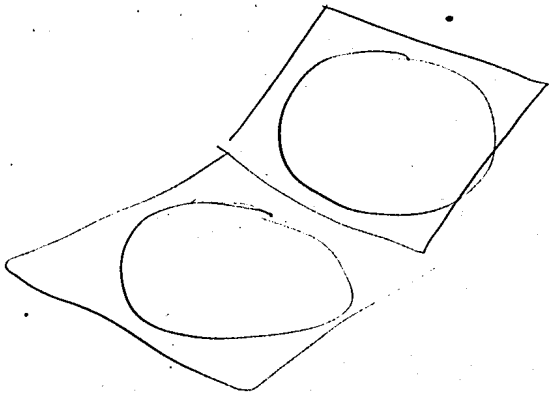
Phono

June 23 1878

T a E
Chas Batchelor J Krussi
E Edison
M M Force



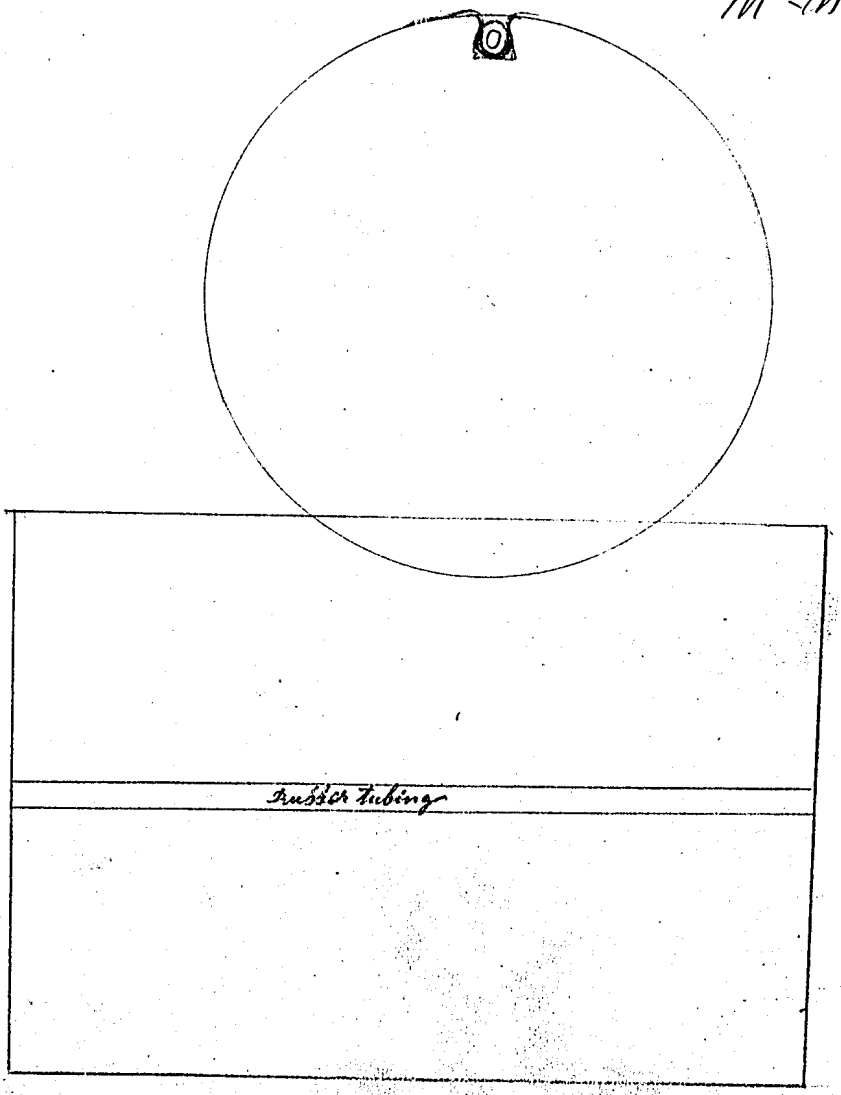




raised rim on plate
or cover goes into groove
on plate & thus
tightens the foil

Speaking Phonograph June 26th 1878

E. Johnson
Jaffray
Lenard
Batchelor
M. Force



Phonograph toy
Childrens alphabet carrier

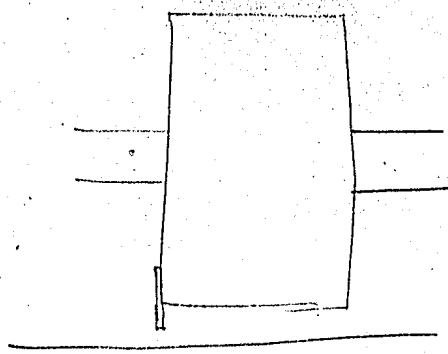
July 16th 1878

Kar Baldwin

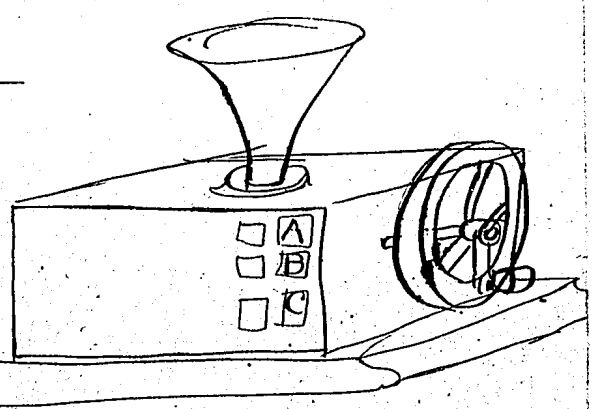
Martin Ford
J Kennedi
A Waldron

A	H	O	V	2	9
B	I	P	W	3	10
C	J	Q	X	4	11
D	K	R	Y	5	12
E	L	S	Z	6	•
F	M	T	&	7	
G	N	U	/	8	.

Make 40 lines on drum and 40 letters & figures as cylinder revolves it pushes down one slide & closes another by a pin on its periphery.



M I E A
N J F B
O K G C
P L H D



The slides must be made to drop itself and cam on shaft holds it up till time to drop it & then takes another.

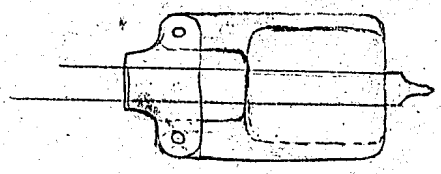
Thu Aug 8th 1878

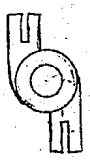
J. Krusi

Chas Batchelor

M. & Force

T A Edison





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T. A. EDISON,

Menlo Park, N. J., Aug 1st 1878

10

John Krusi.

Fit up one of the clock-work phonographs with worm regulator and registering apparatus ~~and key to register~~. For registering put 2 pins on one side of groove.

Chas Batchelor.

Done August 5th 1878

after ~~Set~~ a plane driven by worm shaft was made and Speed the

130

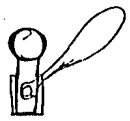
Alteration on Phonograph Aug 1878

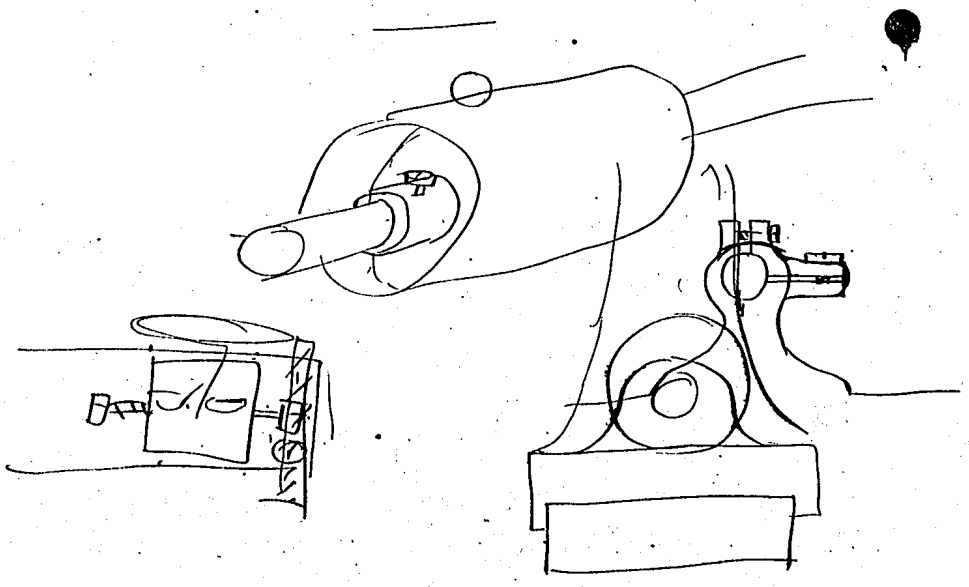
J Kruesi

Chas Batchelor

W H Ponce

T A Edison

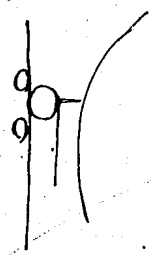




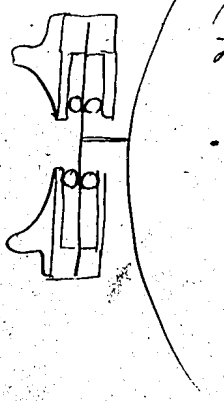
Speaking Phonograph. Aug 13th 1878

T A Edison

I find that the hissing consonants are by no means perfect on the phonograph that they are ~~worst when not stamd~~ improved when a piece of match is put in the rubber, this we all well knew, but it led me to enquire why it was so and I find that the putting in of a match only stiffens and makes more solid the Spring to diaphragm. that in our ordinary dampened diaph. when the



hissing consonants are given the diaph works between the dampeners and the spring rubber, and the point lies dormant against the tinfoil. The remedy I propose is to make point solid on diaph and dampen both sides thus:— so that the slightest hiss will come on the tinfoil



Chas Batchelor

J Kruesi

Wm. N. Force

133

Aug 15th 1878

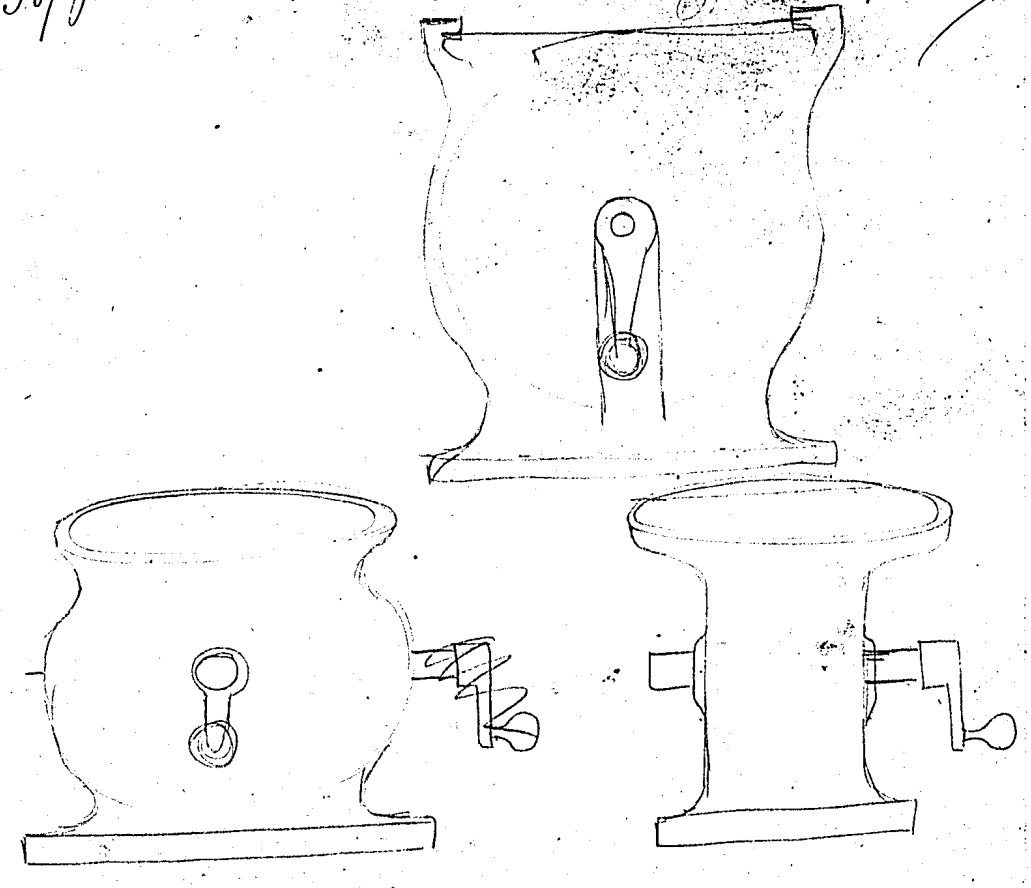
Charpentier

Force

M. M.

T. Edison

Toy phonograph



Speaking Phonograph

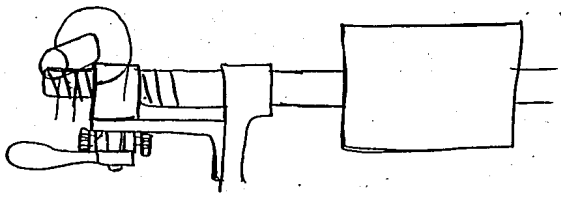
Aug 10th 1878

Charbakeloff

J Lemoine

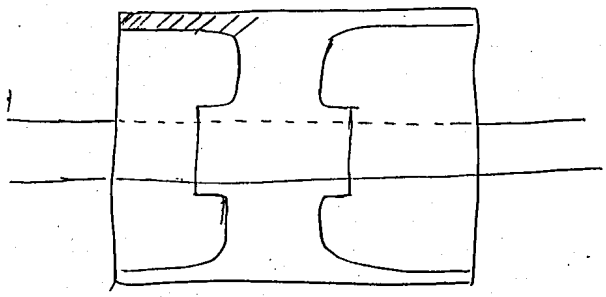
W B Pierce

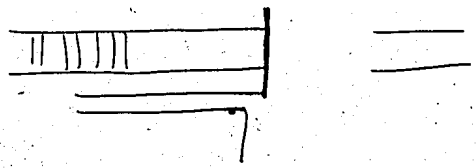
Alterations on Exhibition machine T A Edison



Decided :- ~~that it is~~ better to put the nut in from underneath because it helps to hold up the shaft and probably makes it run easier

1





Speaking Phonograph

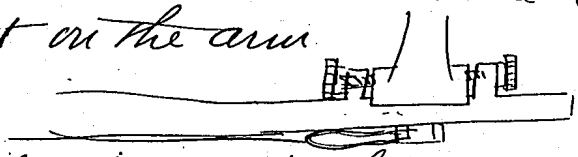
Aug ~~1890~~ 1891
Aug 1891

New Thom for Mouth-Piece Improper

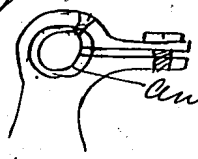
To be altered from Pool to Model. Mar 2 Patented

1 Make Cylinder diam & long bearing in middle

2 lengthen arm and make side adjustment on the arm

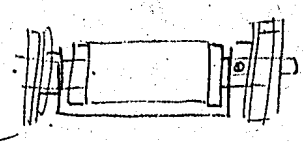


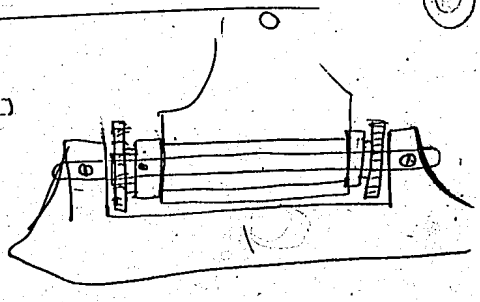
3 Make box bearings for Metalline bushes and bearings to be made as

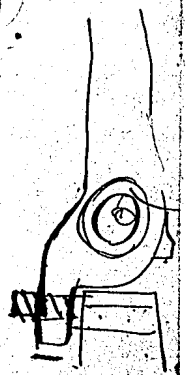


4. Make the brass nut on end of bracket which must be made proportionate for the brass at end. with lever

5 Make straight Spring on top of bracket to put on the brass on screw







33/23 11 33/99 99/189

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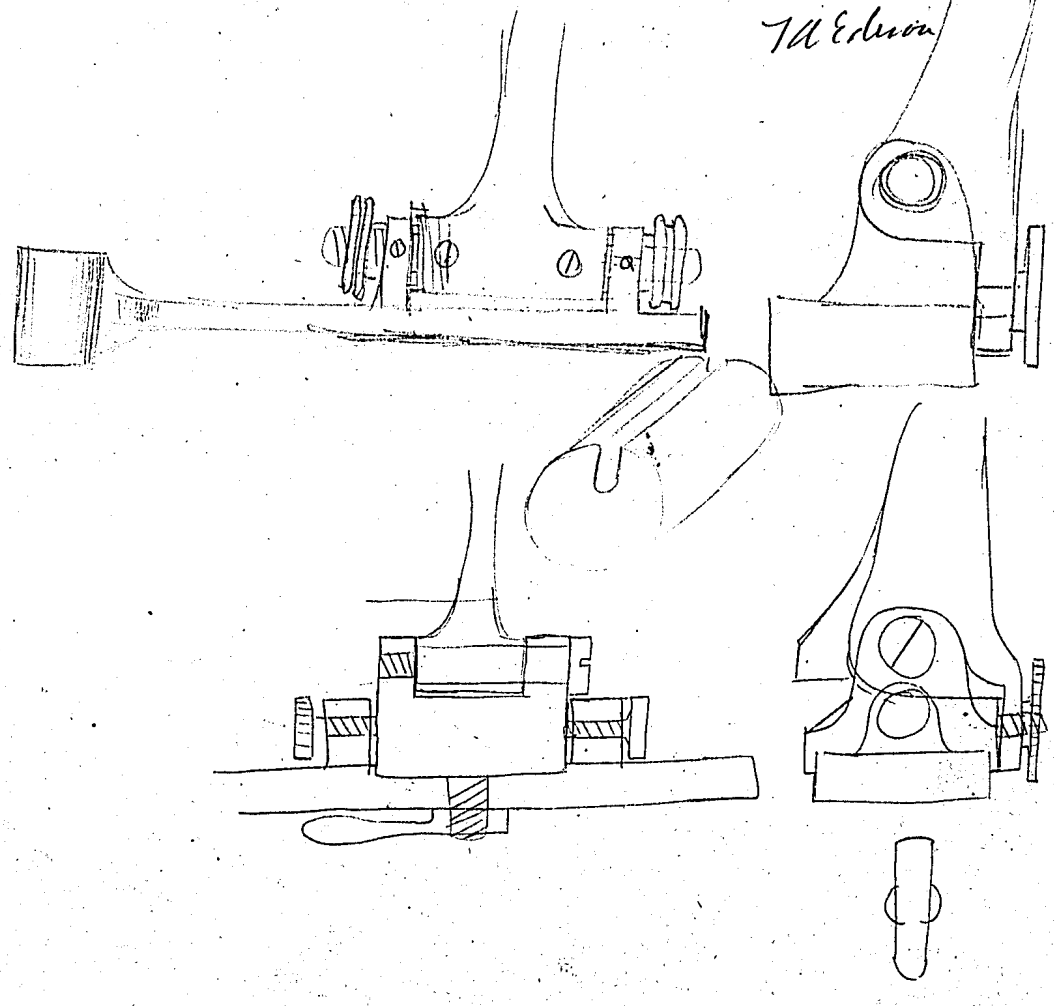
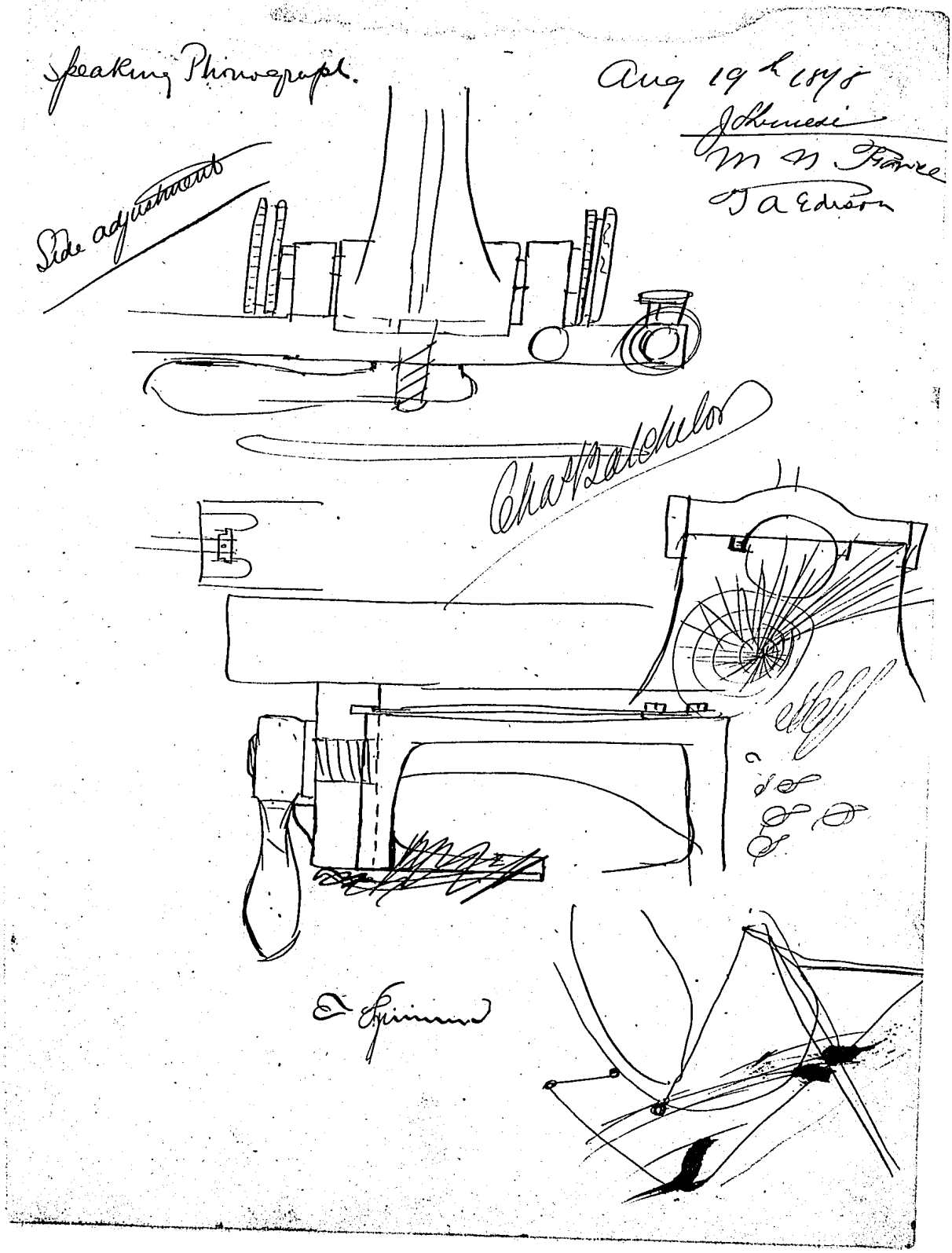
Speaking Phonograph

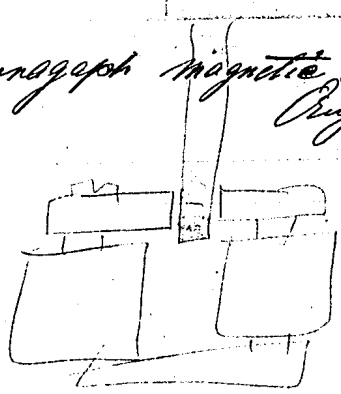
Aug 18th 1878

Chas Batchelor
J. Lenox
Jno Ott
T.A. Edison



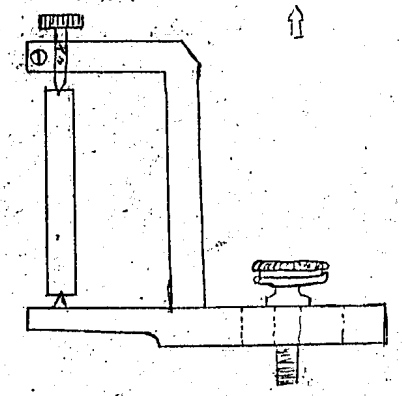

Speaking Phonograph.
Aug 19th 1878
J. Lenoir
M. & France
T. A. Edison
Side adjustment
Chas Batchelor

Speaking Phonograph Magnetic Regulator
Aug 26th 1878
J Kruesi

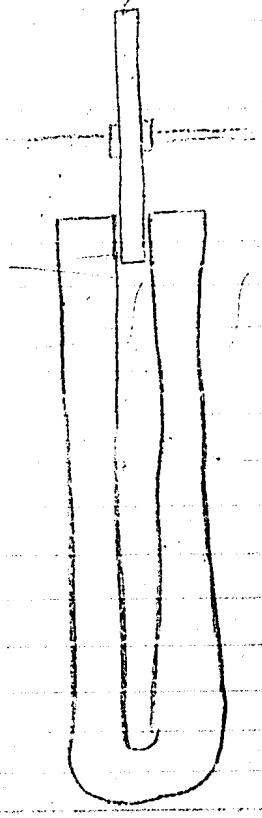


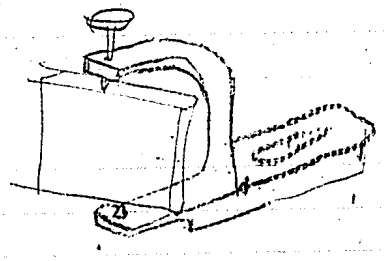
Aug 26th 1878
J Kruesi
M N. Force
T A Edison

Chess Attachment
M N Force
T A Edison



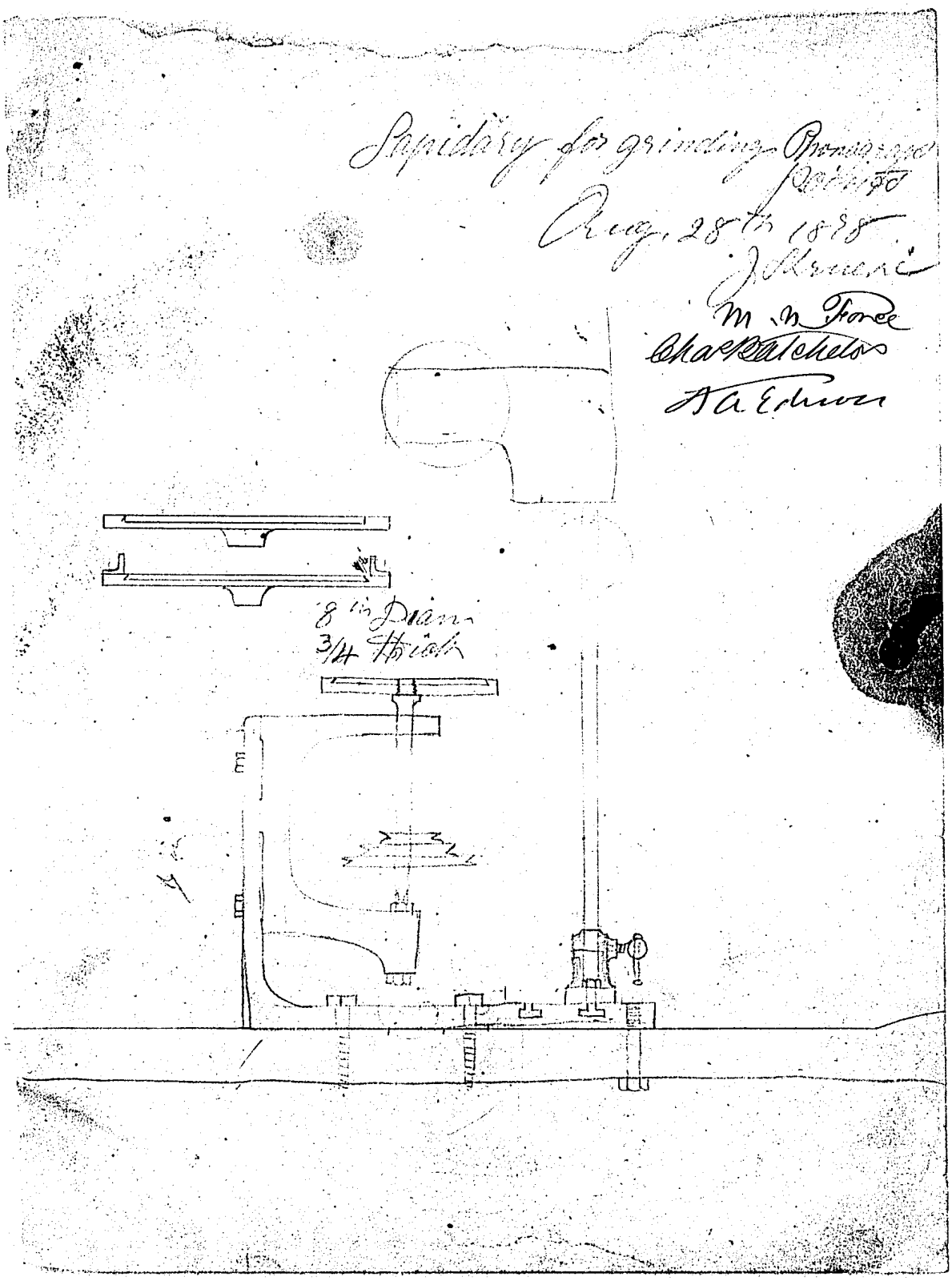
3/16. 1/4





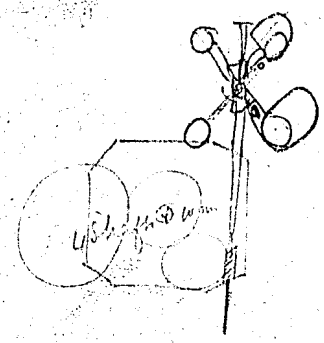
139

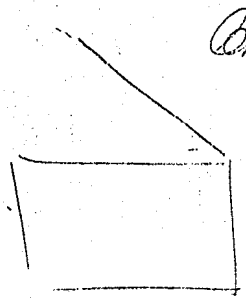
140

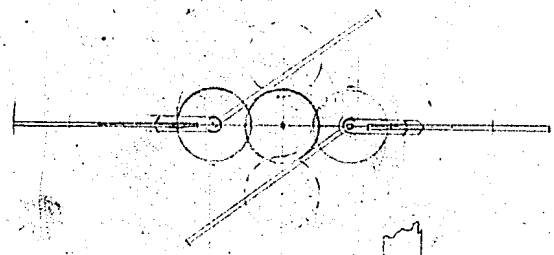

Aug. 28th 1888
8 in Diam
3/4 Hole

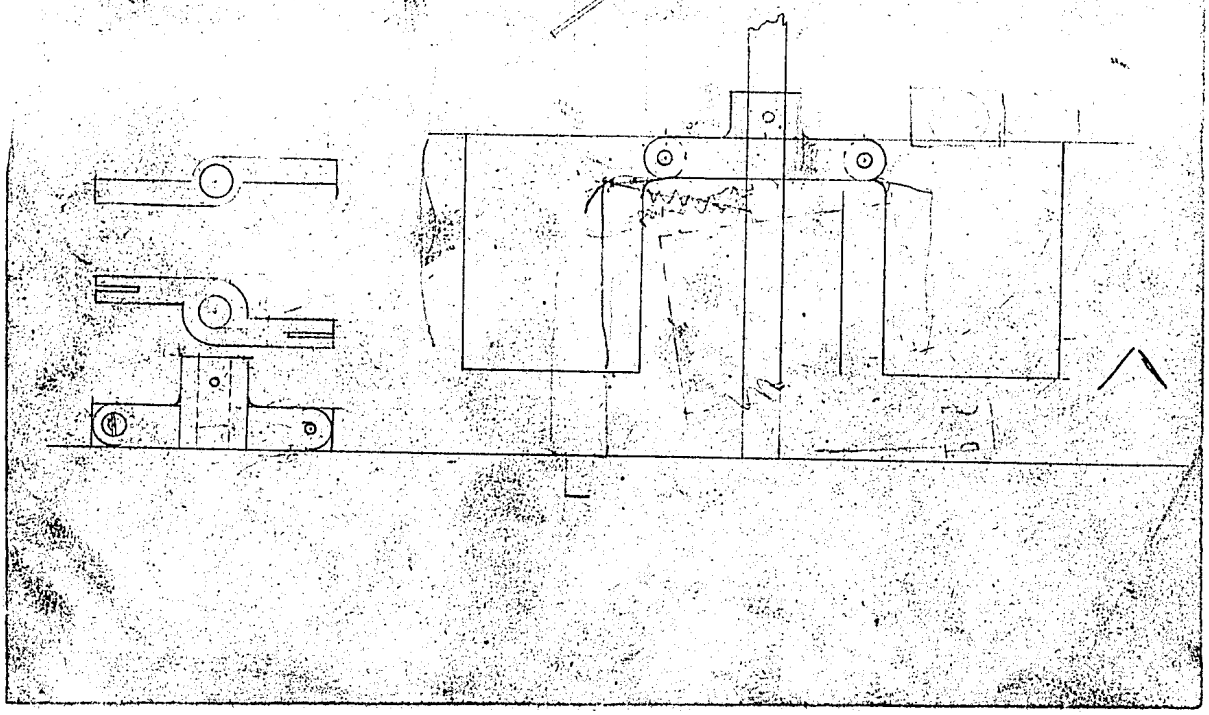
Rotating Machine Regulator
Speaking Phonograph

Aug 29th 1878
T A Edison
Chas Batchelor
J Krusi
M G Foner





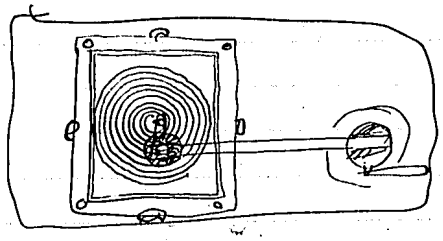




T. A. EDISON.

Menlo Park, N. J., 187

Phono Aug 31 1878 T A Edison J Kreusi Chas Batchelor M on Force



Meadow Meadow

Menlo Menlo

15000. Menlo Park. Menlo

Menlo Park Menlo Menlo

15. Park. 14 14

45000 45 30

10, 45

150 45

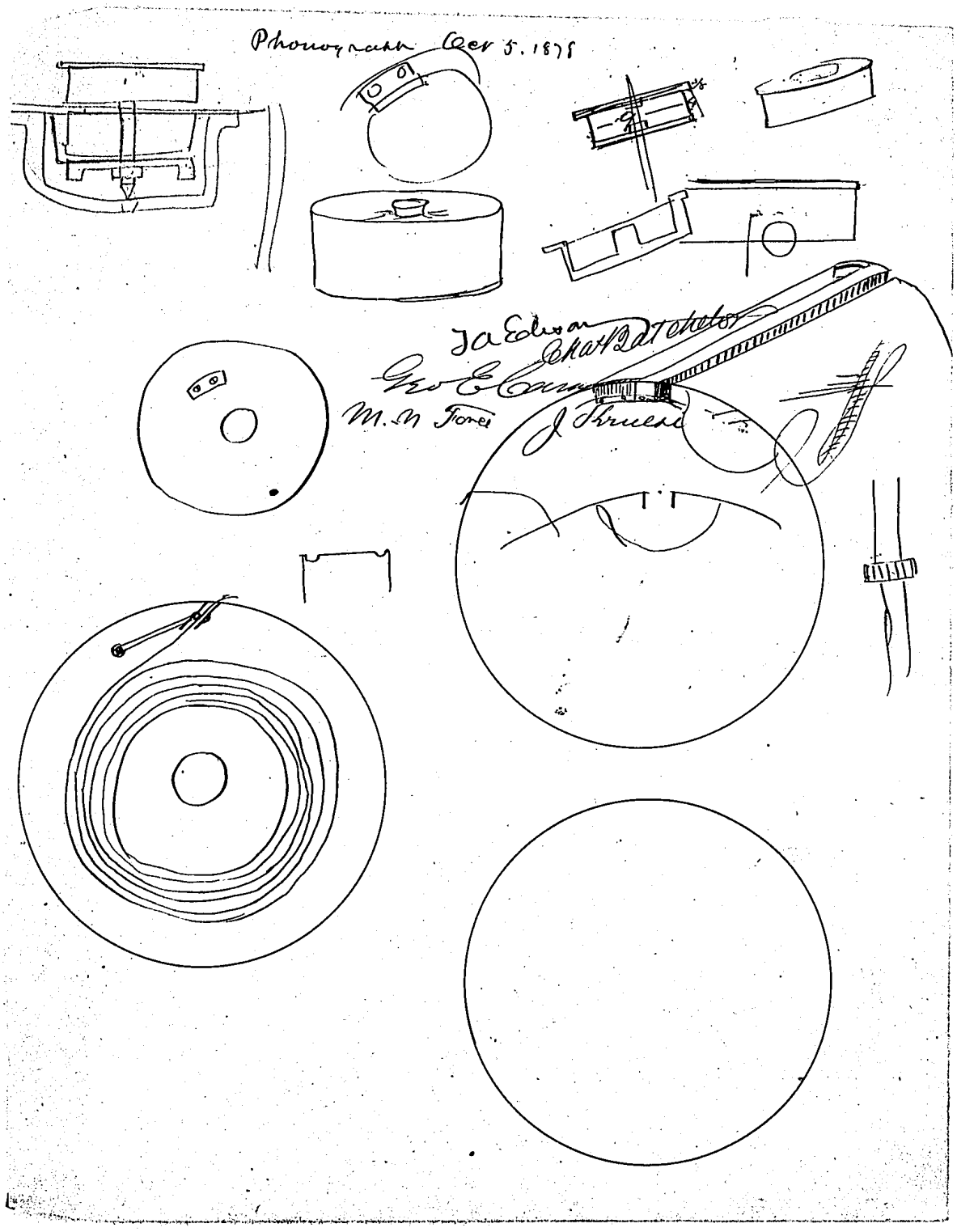
31

45.0

Personally appeared before me this day of 18 , the said Thos. A. Edison, Chas. Batchelor, John Kreusi, and Martin Force, and acknowledged the above to be their signature

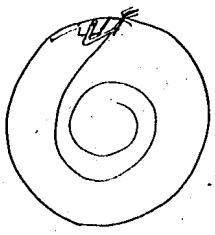
Notary Public.

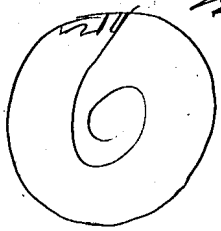
143


Phonograph Oct 5. 1878
Thomas A Edison
Chas Batchelor
Geo E Gouraud
M. N. Forney
J. Krueger

Phonographs Oct 5, 1878

T A Edison





Phonograph

Oct 6th 1878
T A Edison
Chas Batchelor
M. M. Force
Geo E Carman
J Kruesi

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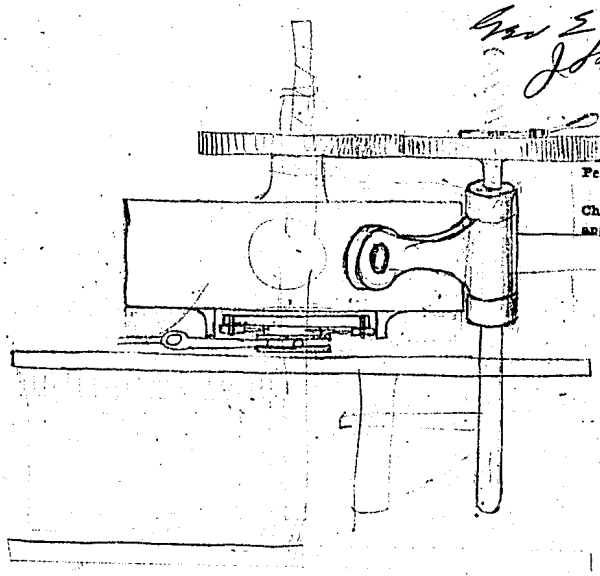
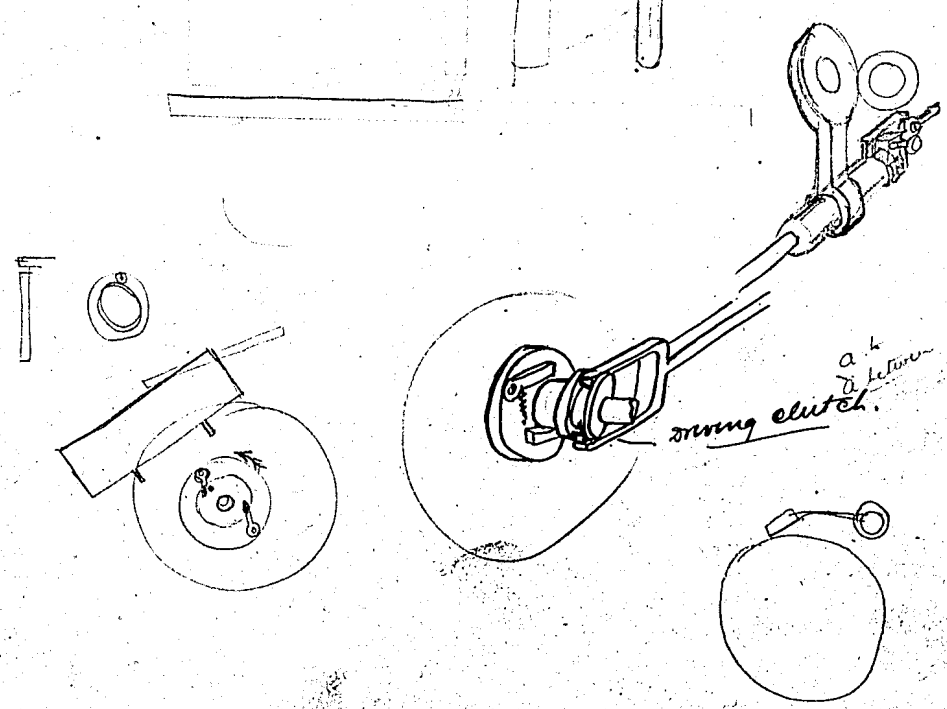




Phonographs

Device for putting on Tinfoil from Roll

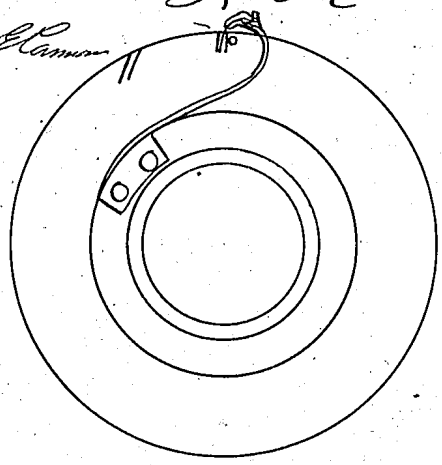
Oct 4 d. 1878

Chas Batchelor

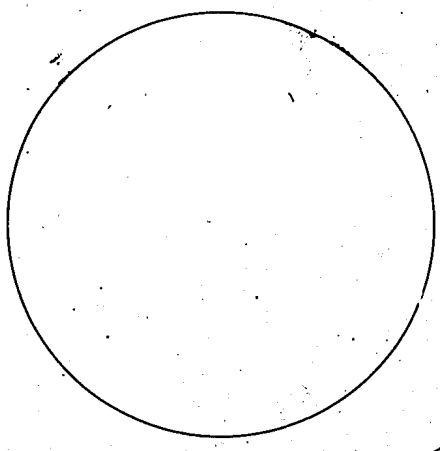
J Kruesi

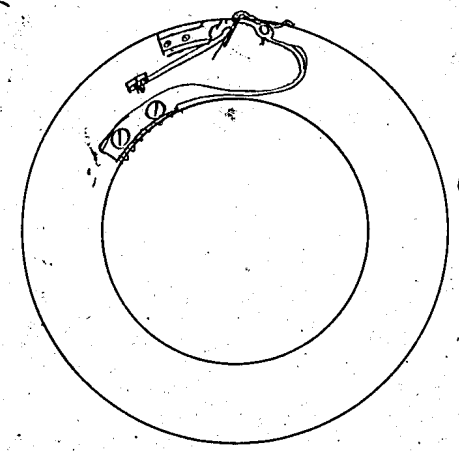
W. N. Force

Geo Clamon



$C = \frac{E}{R}$



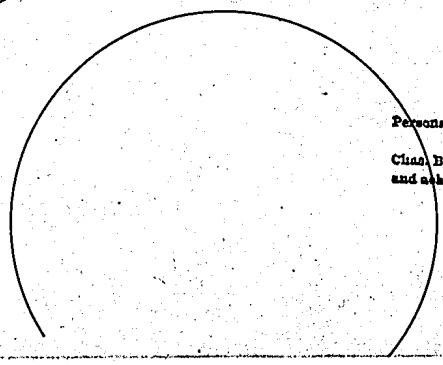


$C = \frac{E}{R}$

$C = \frac{45}{5} R$

$R = \frac{E}{C} = 5 = \frac{45}{7}$

$E = C \times R.$



Personally appeared before me this day
18 , the said Thos. A. Edison
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Notary Public.

147

Oct 7 1878

Phonograph

Cylinder stationary fast on shaft

Cylinder with 3 threads on one end

arm for mouthpiece on sleeve with rack to engage in the cylinder threads

arm with upright to stop against

Friction device for holding up the sleeve when running out

— Fly wheel on [illegible] shaft

— cylinder 9" diam

— Design in sheet cardboard cover up & speak through mouthpiece

— Make arm that carries all mouthpieces, stopper, and rack spring from one common center

T. A. EDISON.

Phonograph

Menlo Park, N. J., Oct 7 1878

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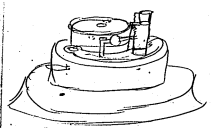
148



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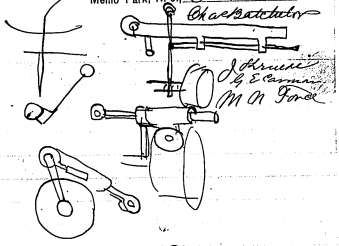
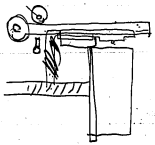
Notary Public.

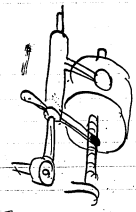
149

T. A. EDISON.

Phonograph
Ja Edison
Oct 8 1878
Menlo Park, N. J.,
Chas Batchelor
J Krusi
Jy E Casmus
M A Ford







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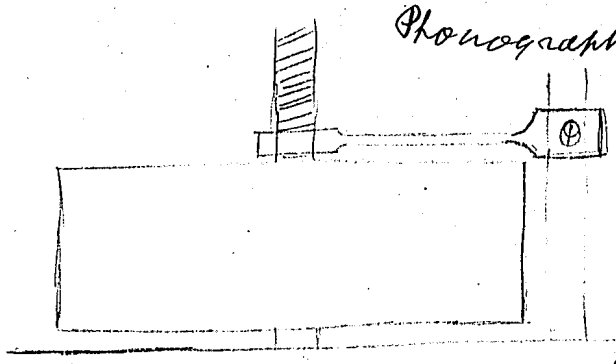
Phonograph Dec 5, 1878



Screw & cylinder in sleeve

J Kreusi

Chas Batchelor

M. M. Force

TAE

Geo E Carman

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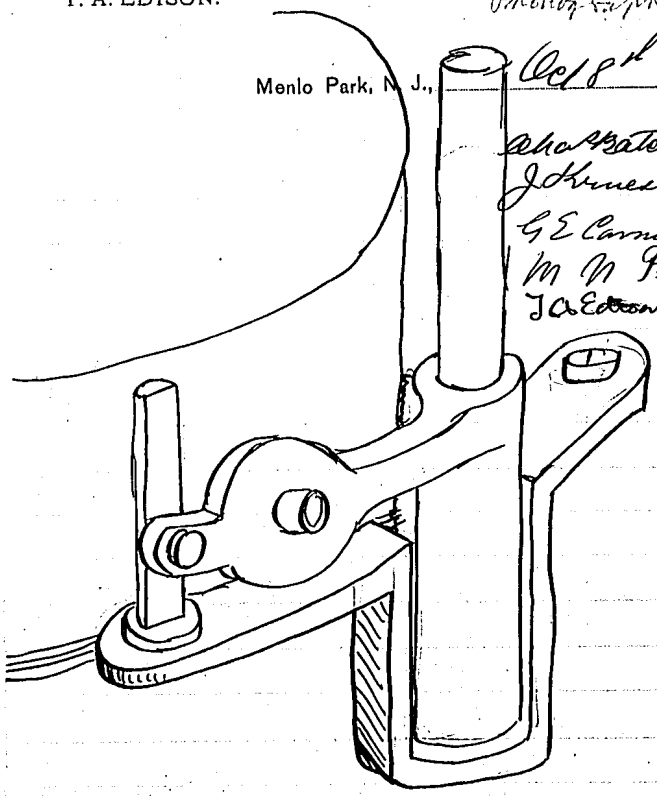
Notary Public.

T. A. EDISON.

Phonograph

Menlo Park, N. J., Oct 8th 1878



Chas Batchelor

J Kreusi

G E Carman

M M Force

T A Edison

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Notary Public.

151

152

Phonographic Co Oct 8. 1878

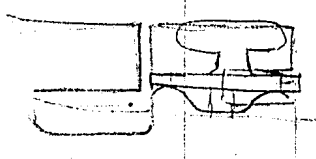
J Kreusi

Chas Batchelor

M M Force

T A E

Geo E Carman



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466.06

666

Phonograph

Oct 8th 1877

Chas Batchelor

J Kruesi

M. N. Force

T A E

Geo E Lanman

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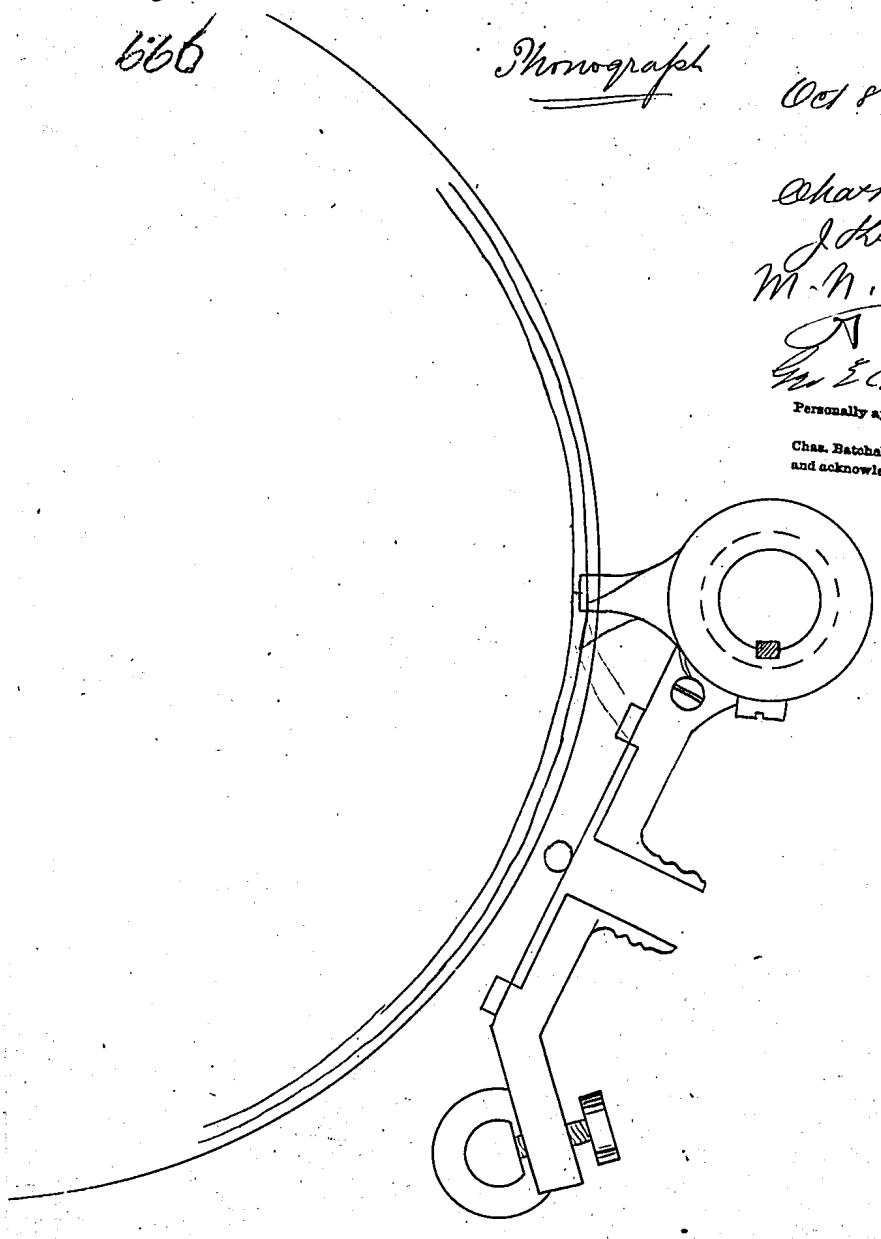


Phonograph.

Oct 8 1878

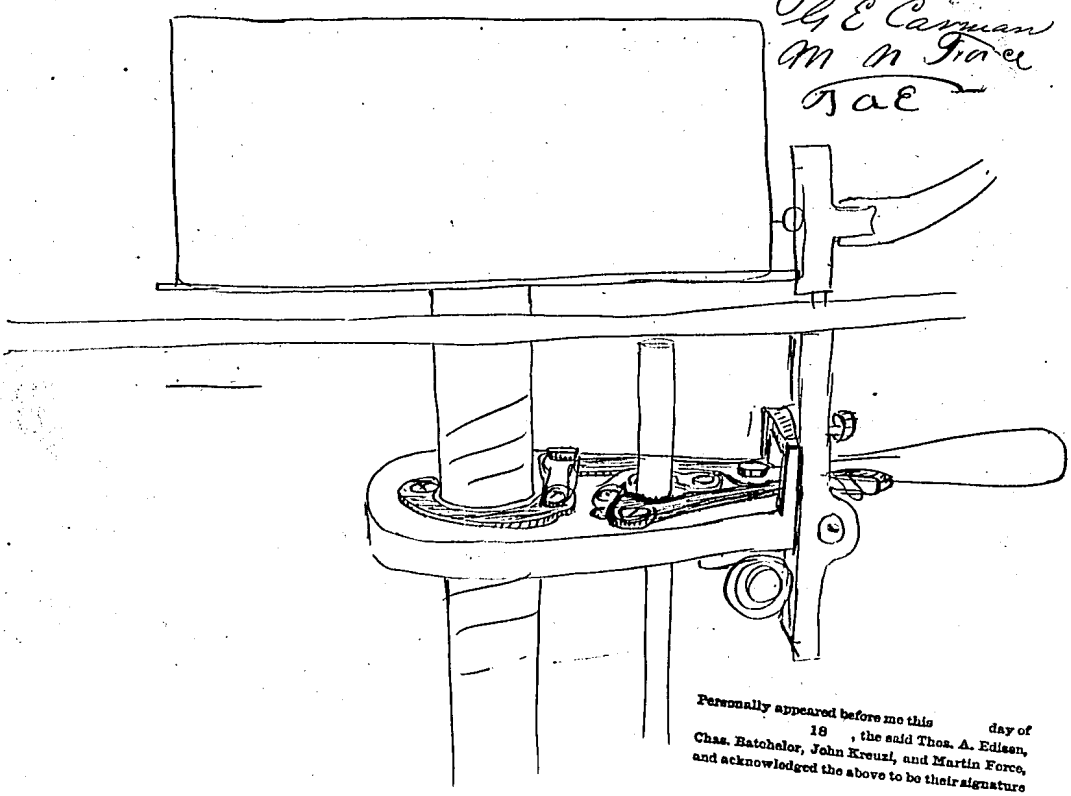
Chas Batchelor

J Kreusi

G E Canman

M n Force

T a E



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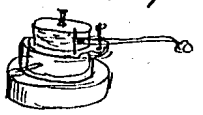
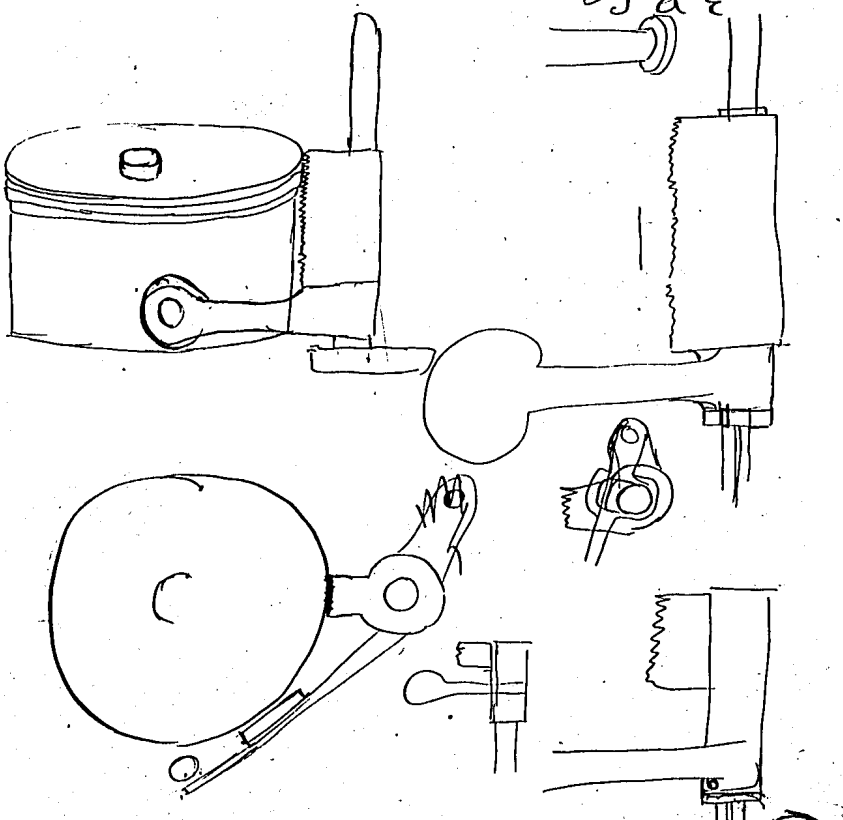


Wax or tinfoil
characters

Geo. E. Carman
J. Krueski
M. N. Force



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Phonograph

Oct 8 1878

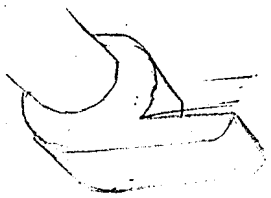
Chas Batchelor

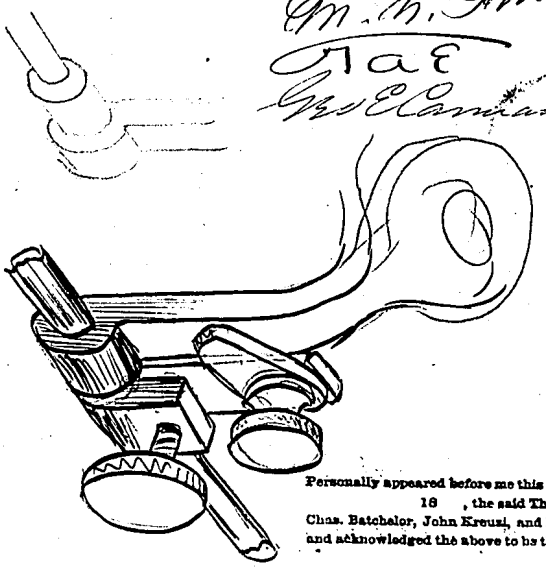
J Kreusi

M. H. Force

Gas

Geo E Carman





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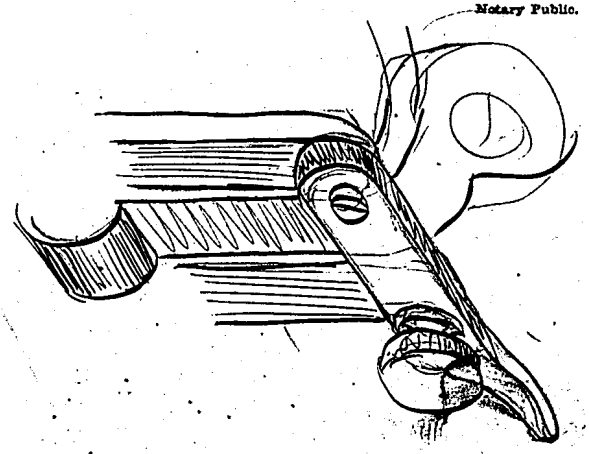
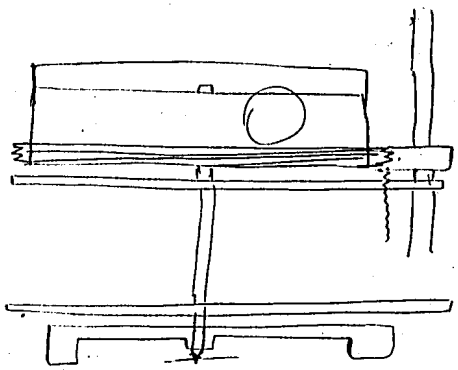
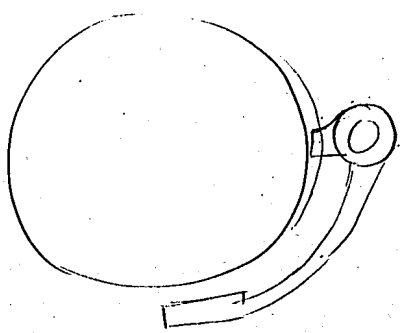


Monograph

Oct 8 1878 Chas Batchelor
J Kreusi
M. M. Force
T a E
Geo E Comman





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158

T. A. EDISON.

JAE = phonograph

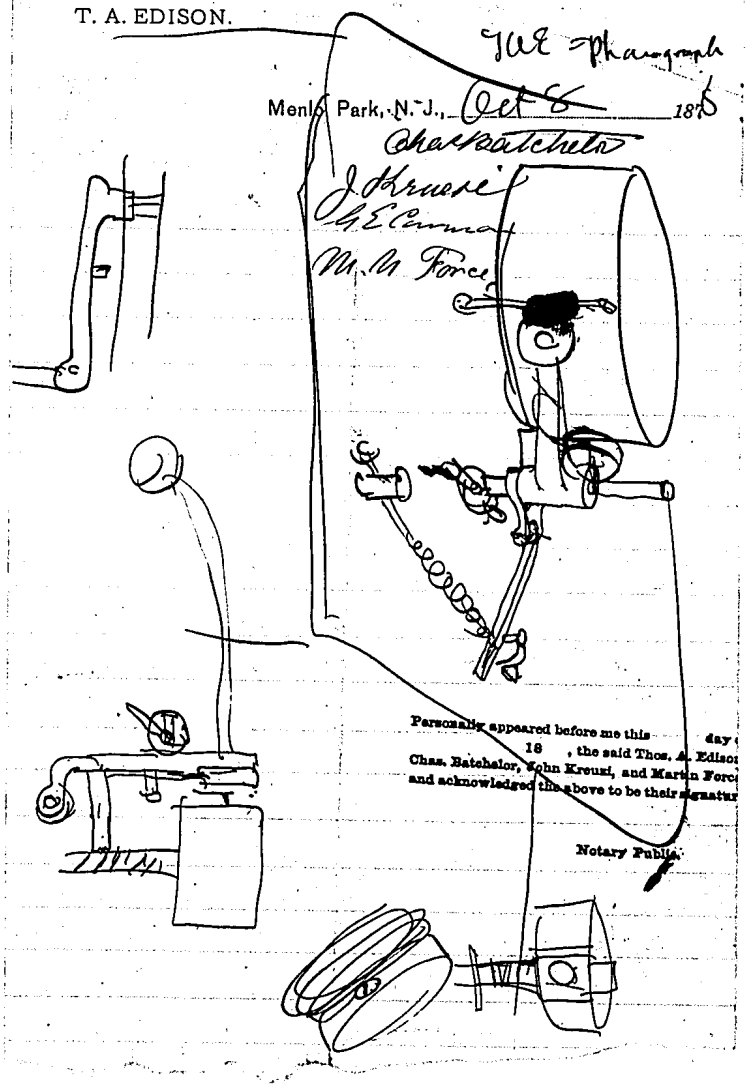
Menlo Park, N. J., Oct 6 1878

Chas Batchelor

J Kreusi

G E Canman

M M Force



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159

T. A. EDISON.

Menlo Park, N. J., Oct 6 1878

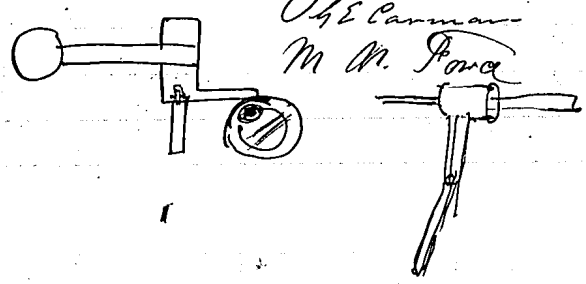
Phonograph JAE

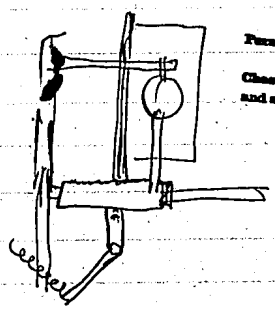
Chas Batchelor

J Kreusi

G E Canman

M M Force





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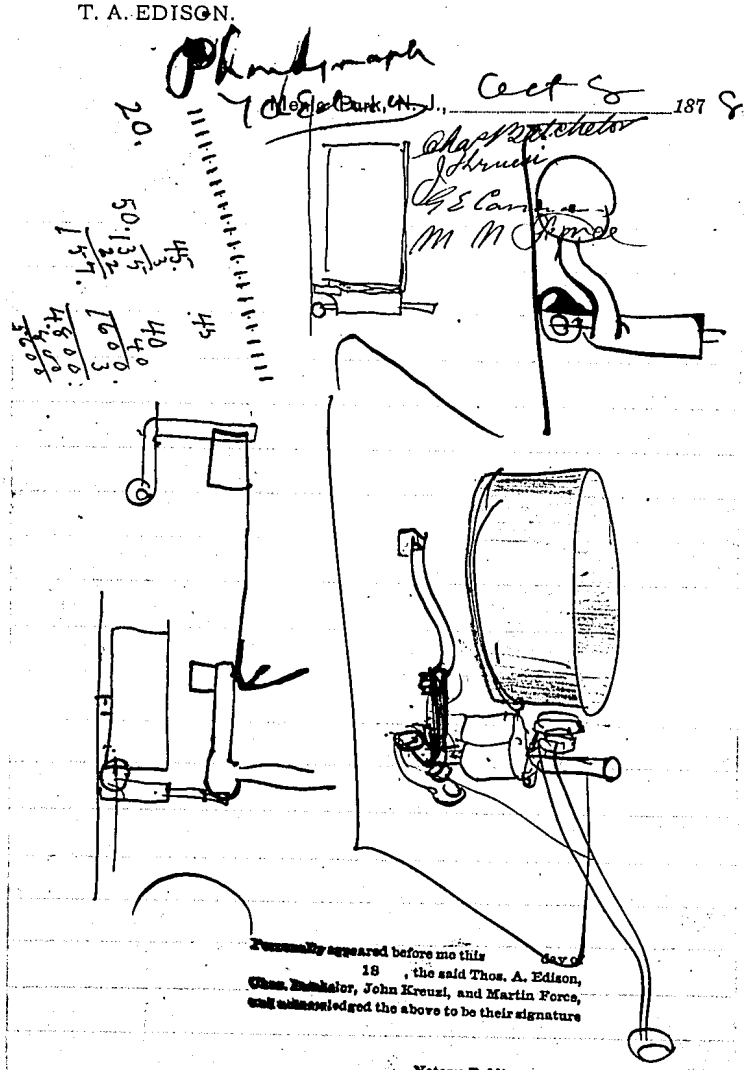
Notary Public.

160

T. A. EDISON.

Phonograph

Menlo Park, N. J., Oct 5 187 5



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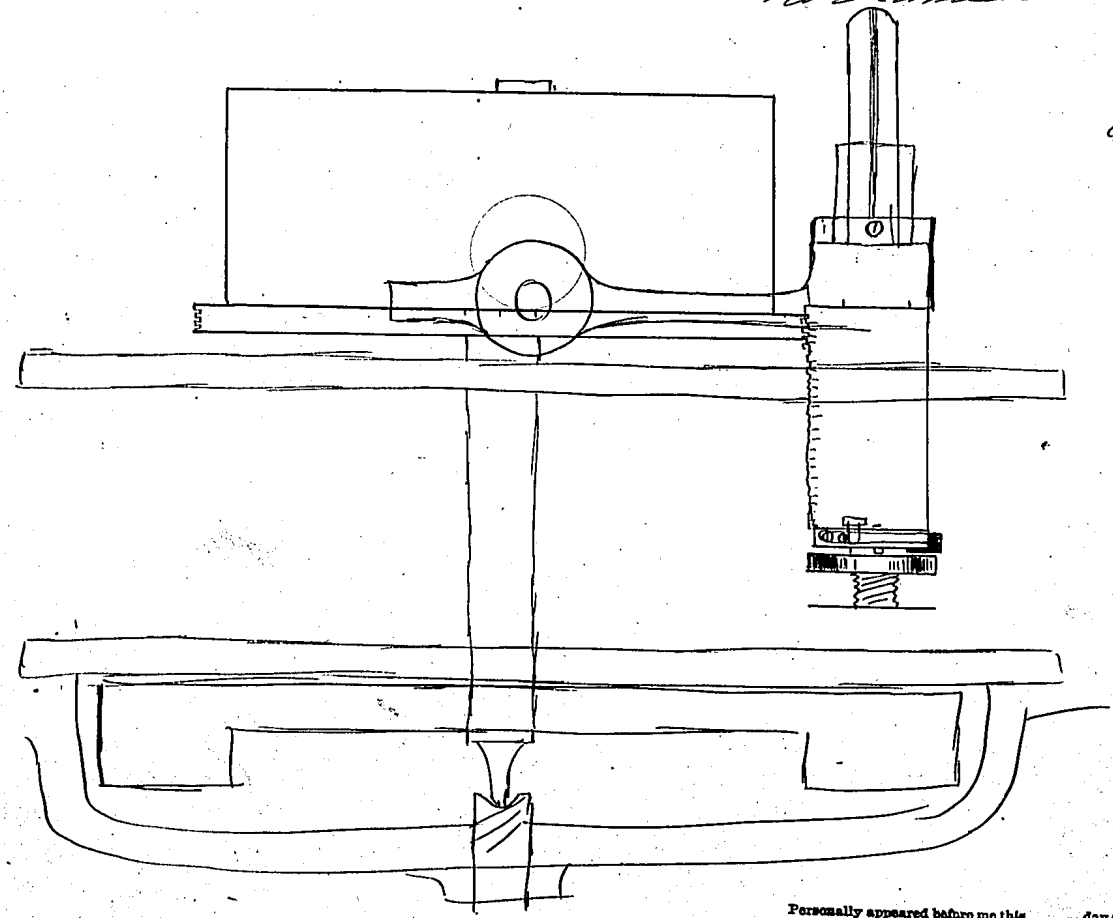
161

Phonograph

Oct 8 1878 J Kreusi
Chas Batchelor
M. M. Force
T A E
Geo E Carman



Personally appeared before me this day of
18 , the said Thos. A. Edison,
Chas. Batchelor, John Kreusi, and Martin Force,
and acknowledged the above to be their signature

Notary Public.

Phonograph

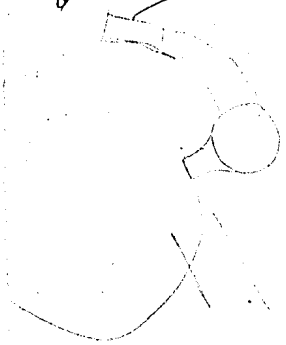
Oct 8 1878

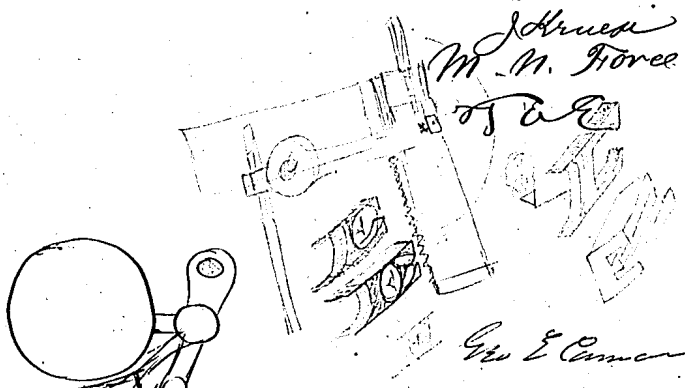
Chas Batchelor

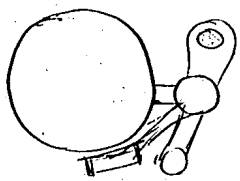
J Kreusi

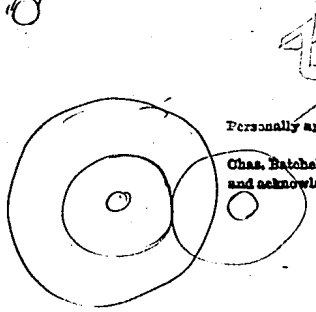
M. N. Force

Geo E Cameron









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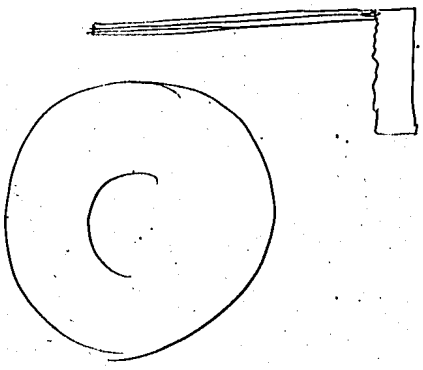

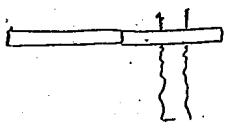

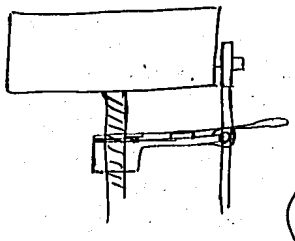

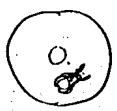

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Phonograph

Oct 8 1878

Chas Batchelor

J Kruesi

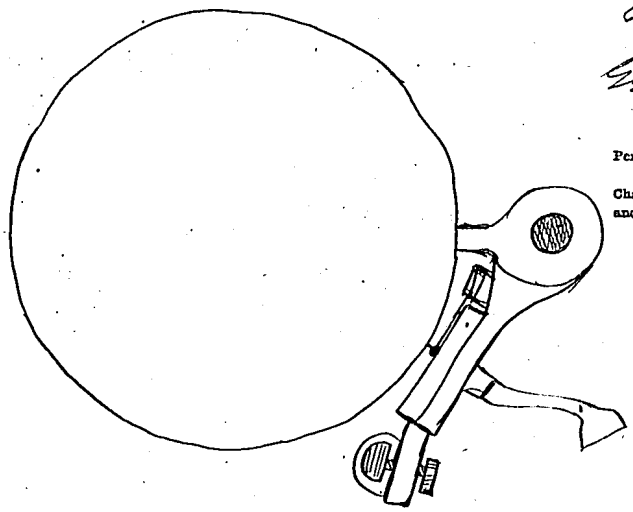
M. M. Force

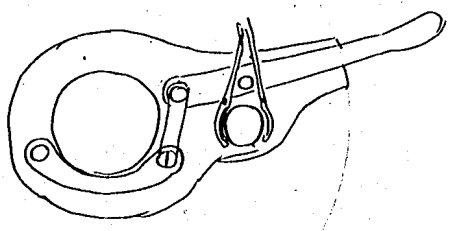
T A E

Geo E Carman

Personally appeared before me this day of 18 , the said Thos. A. Edison, Chas. Batchelor, John Kreusi, and Martin Force, and acknowledged the above to be their signature.

Notary Public.





Phonographs

Oct 8 1894

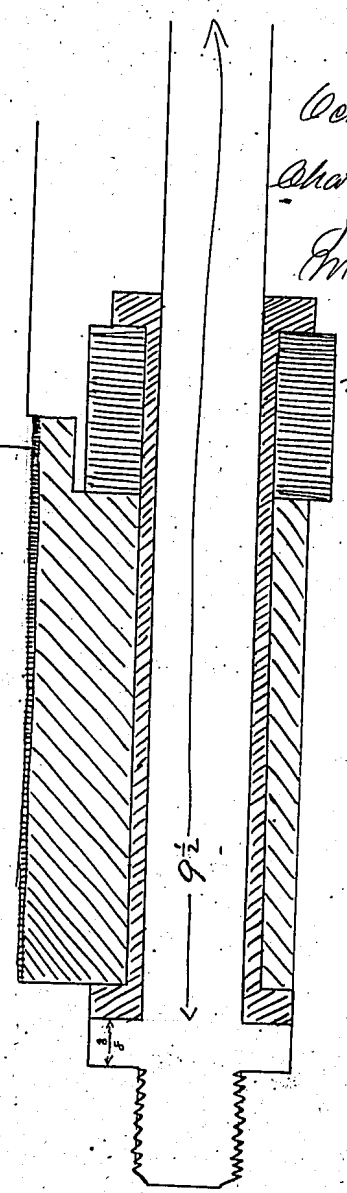
Chas Batchelor

J Kreuzi

M. M. Force

T A E

Geo E Carman



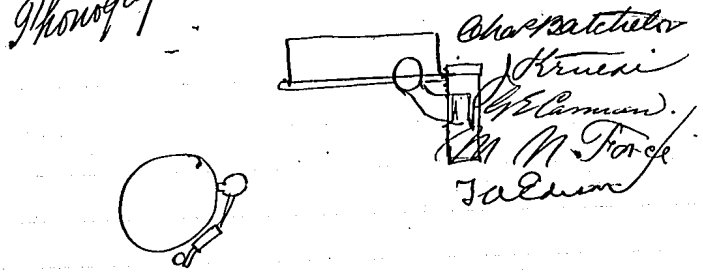
Personally appeared before me this day
18 , the said Thos. A. Edison,
Chas. Batchelor, John Kreuzi, and Martin Force,
and acknowledged the above to be their signatures

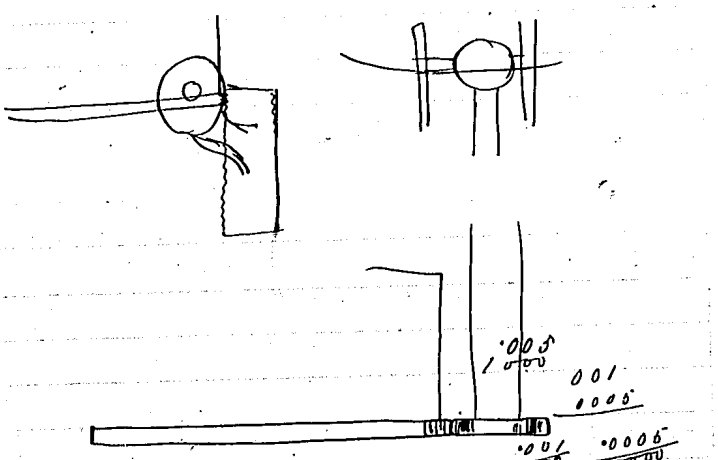
Notary Public.

T. A. EDISON.

Phonograph. Menlo Park, N. J., Oct 8 1878

Chas Batchelor
John Kreusi
Geo E Cannon.
Martin N. Force
Thos A Edison





Personally appeared before me this day
18 , the said Thos. A. Edison
Chas. Batchelor, John Kreuzi, and Martin Force
and acknowledged the above to be their signatur

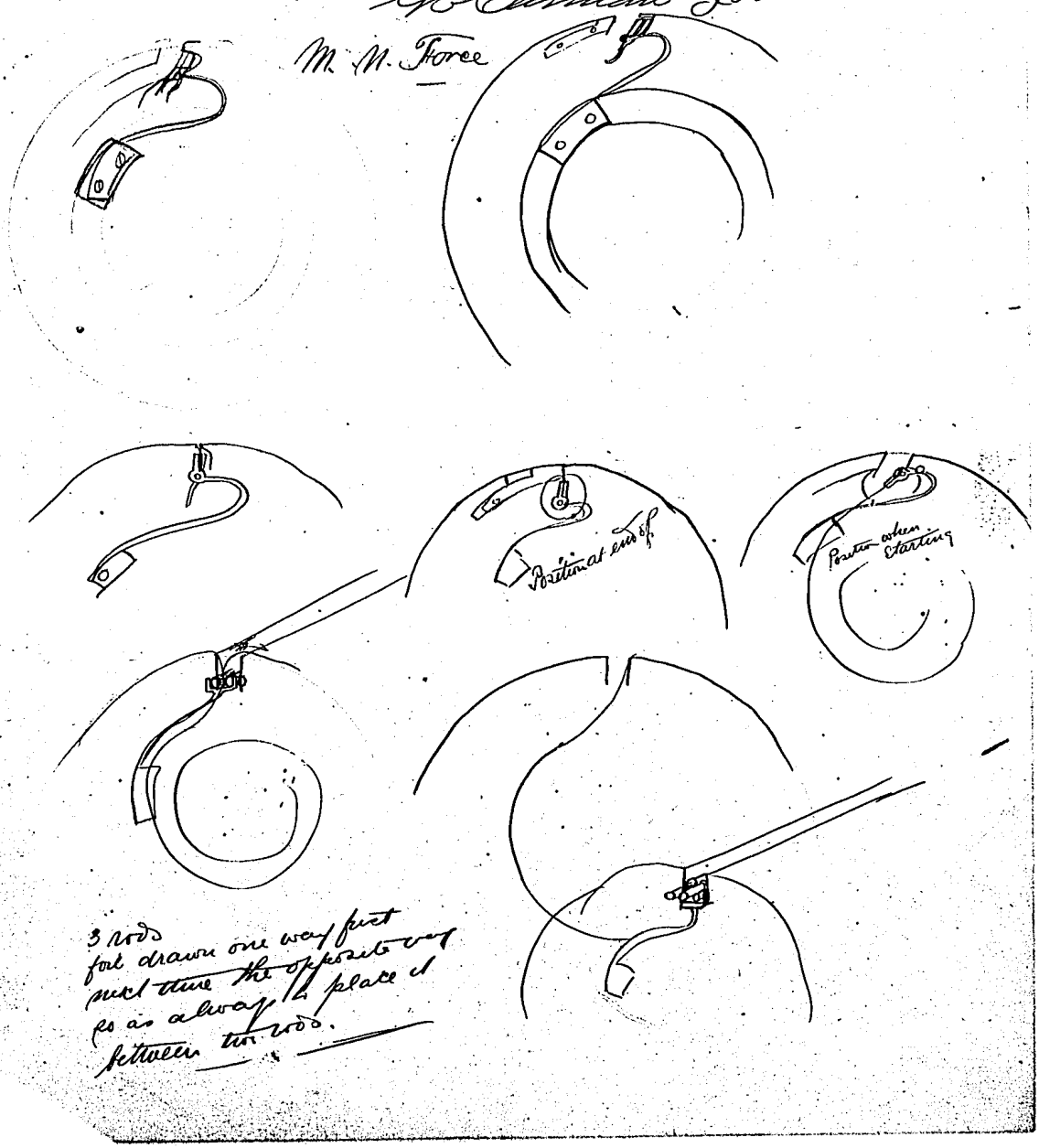
Notary Public.

166

Phonograph

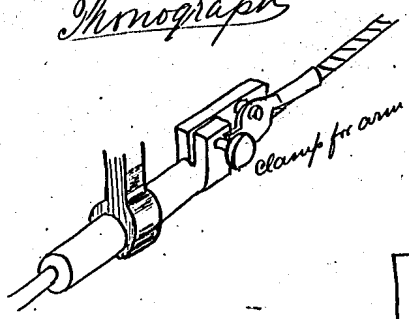
Oct 8. 1878

To Edison Chas Batchelor
G. Cammen J. Kruesi
M. M. Force

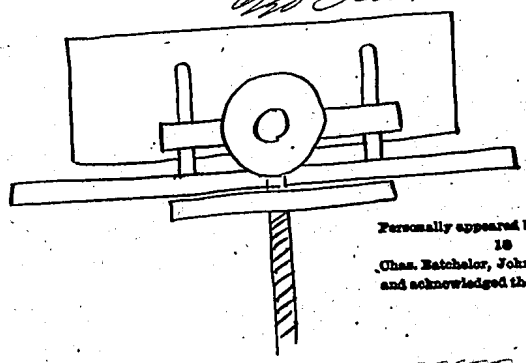

Position at end of
Position when starting
3 rods
for drawn one way just
past close the opposite way
so as always to place a
between two rods.

Oct 8 1878

Phonograph



Chas Batchelor
J Kruesi
M M Force
T A E
Wm Ellsman



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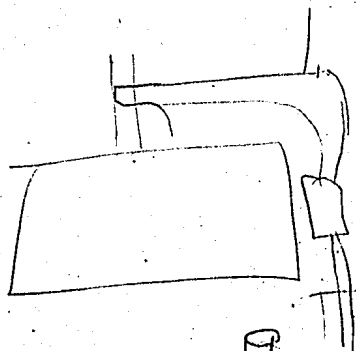
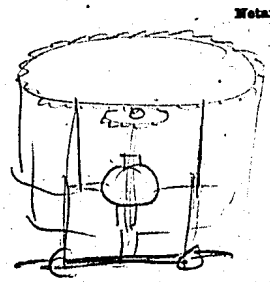
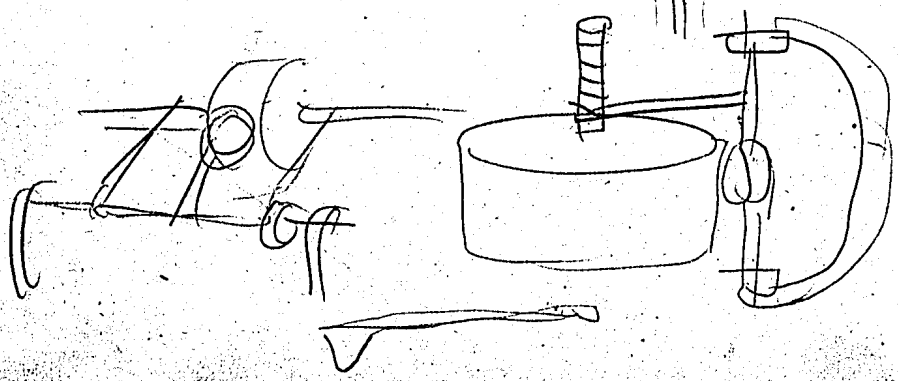
Notary Public.







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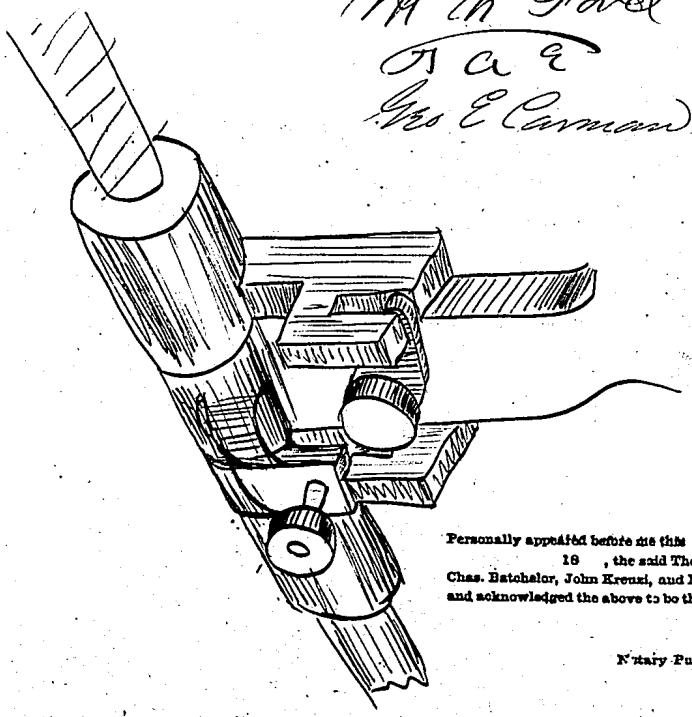
Oct 8th 1878

Phonograph.

Chas Batchelor
J Kreusi
Mt M Force
T A E
Geo E Carman



Personally appeared before me this day of
18 , the said Thos. A. Edison,
Chas. Batchelor, John Kreusi, and Martin Force,
and acknowledged the above to be their signature

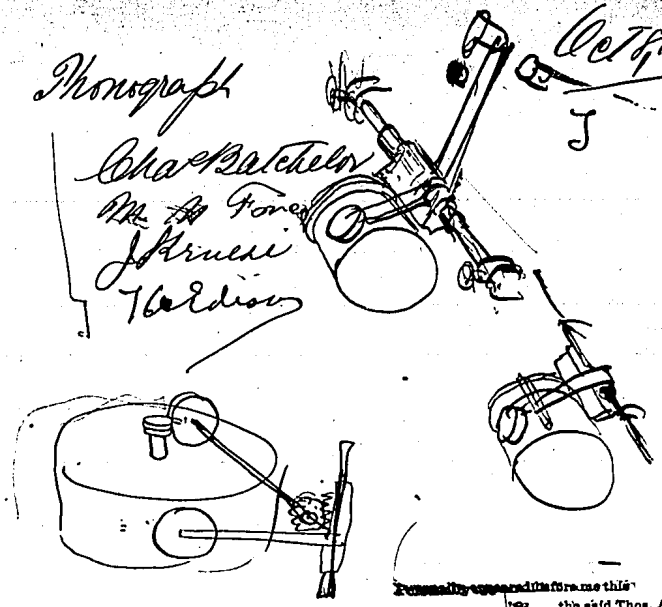
Notary Public.

Phonograph

Chas Batchelor
Mr A Force
J Kreusi
T A Edison

Oct 8 1878

J



Personally appeared before me this day of
1878, the said Thos. A. Edison,
, John Kreusi, and Martin Force,
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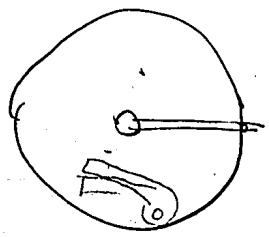
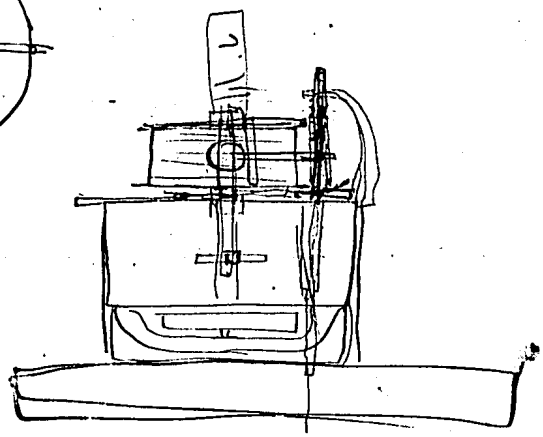
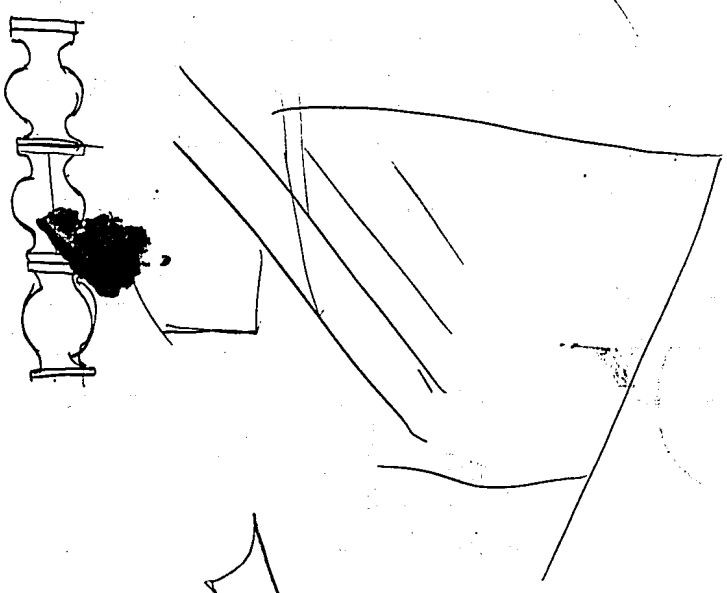
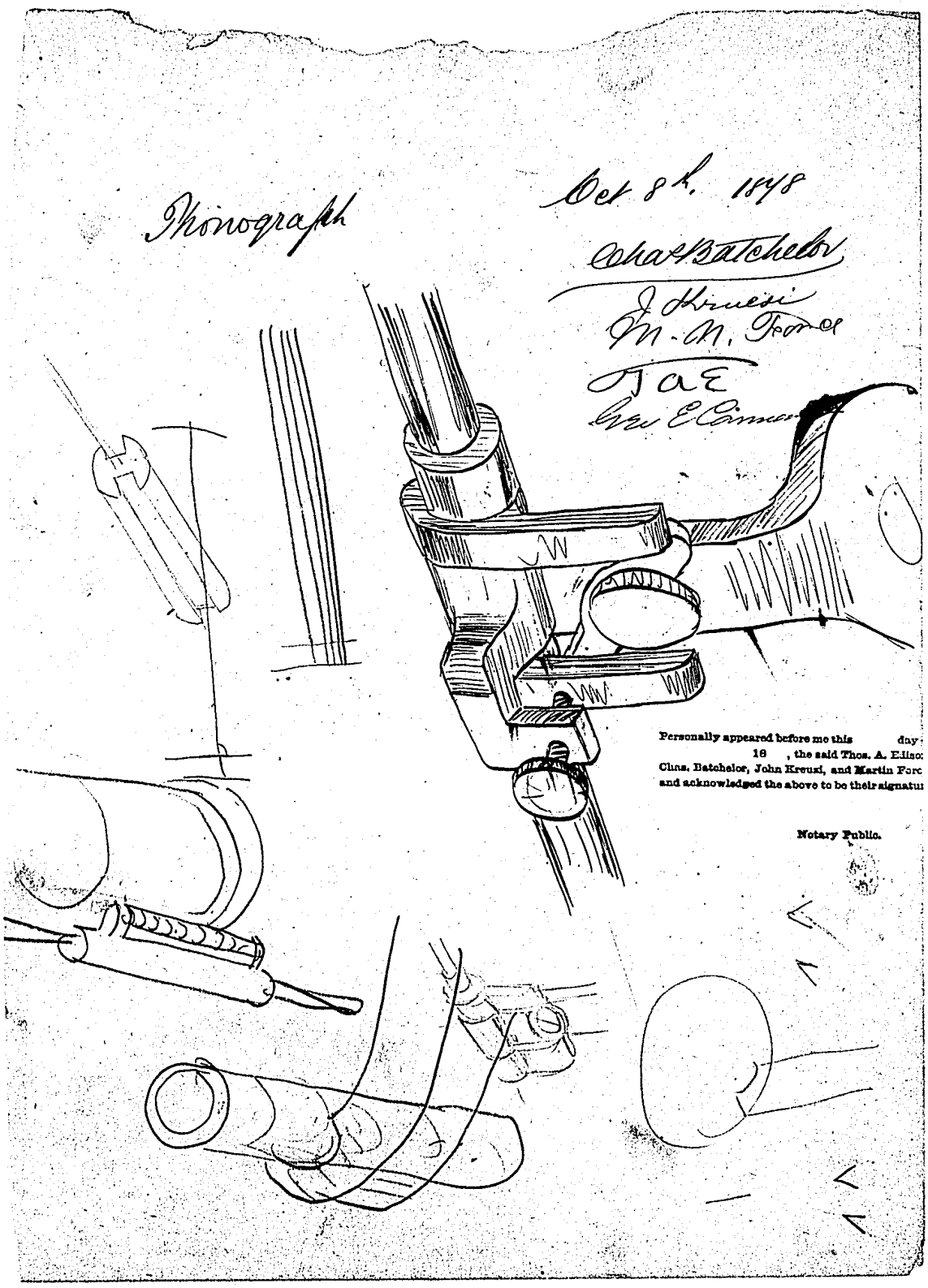






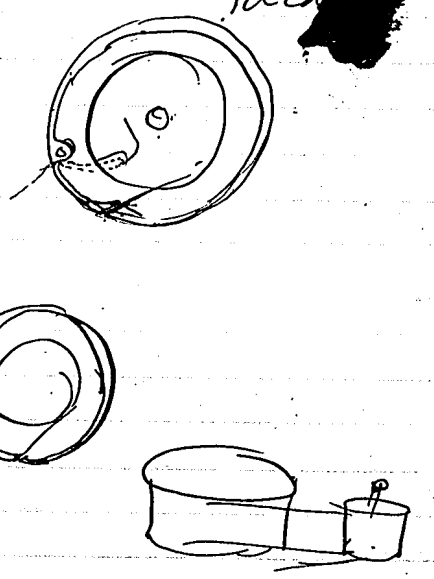

Phonograph
Oct 8th. 1878
Chas Batchelor
J Kruesi
M. M. Forbes
TAE
Geo E Cannon
Personally appeared before me this day
18 , the said Thos. A. Ellis
Chas. Batchelor, John Kreusi, and Martin Forb
and acknowledged the above to be their signatu
Notary Public.

T. A. EDISON.

Menlo Park, N. J., Oct 8 187 8

Phonograph

J Kruesi
Chas Batchelor
M. H. Force
Jas E Camman
T A E



Personally appeared before me this day of
18 , the said Thos. A. Edison,
Chas. Batchelor, John Kreusi, and Martin Force,
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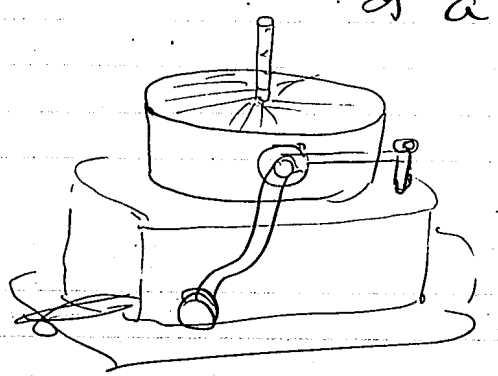
Notary Public.

T. A. EDISON.

Menlo Park, N. J., Oct 9th 187 8

Phonograph

Chas Batchelor
J Kruesi
Jas E Camman
M. H. Force
T A E



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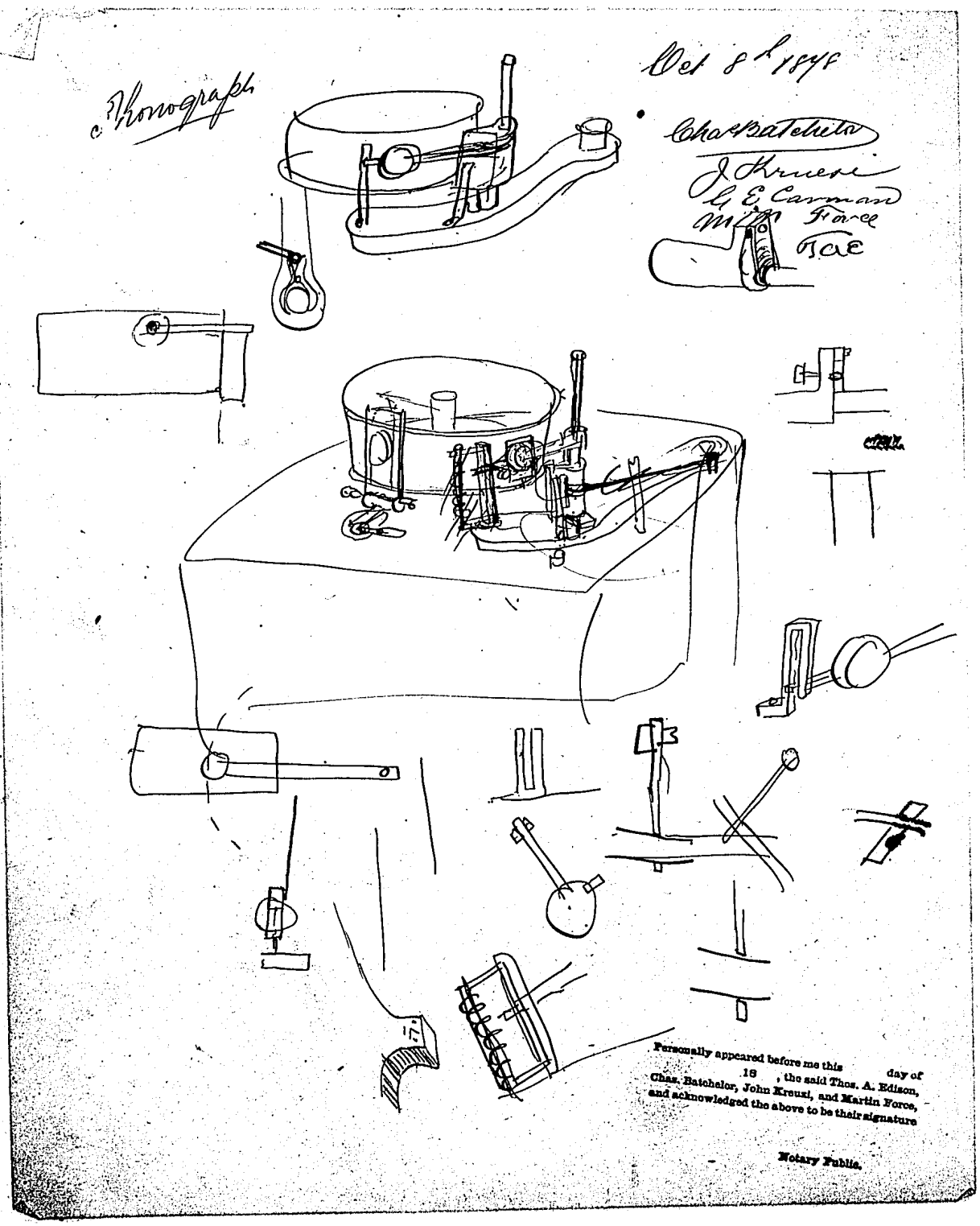
Phonograph
Oct 8 1878
Chas Batchelor
J Kreusi
L E Carman
Wm Force
TAE
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18 , the said Thos. A. Edison,
Chas. Batchelor, John Kreusi, and Martin Force,
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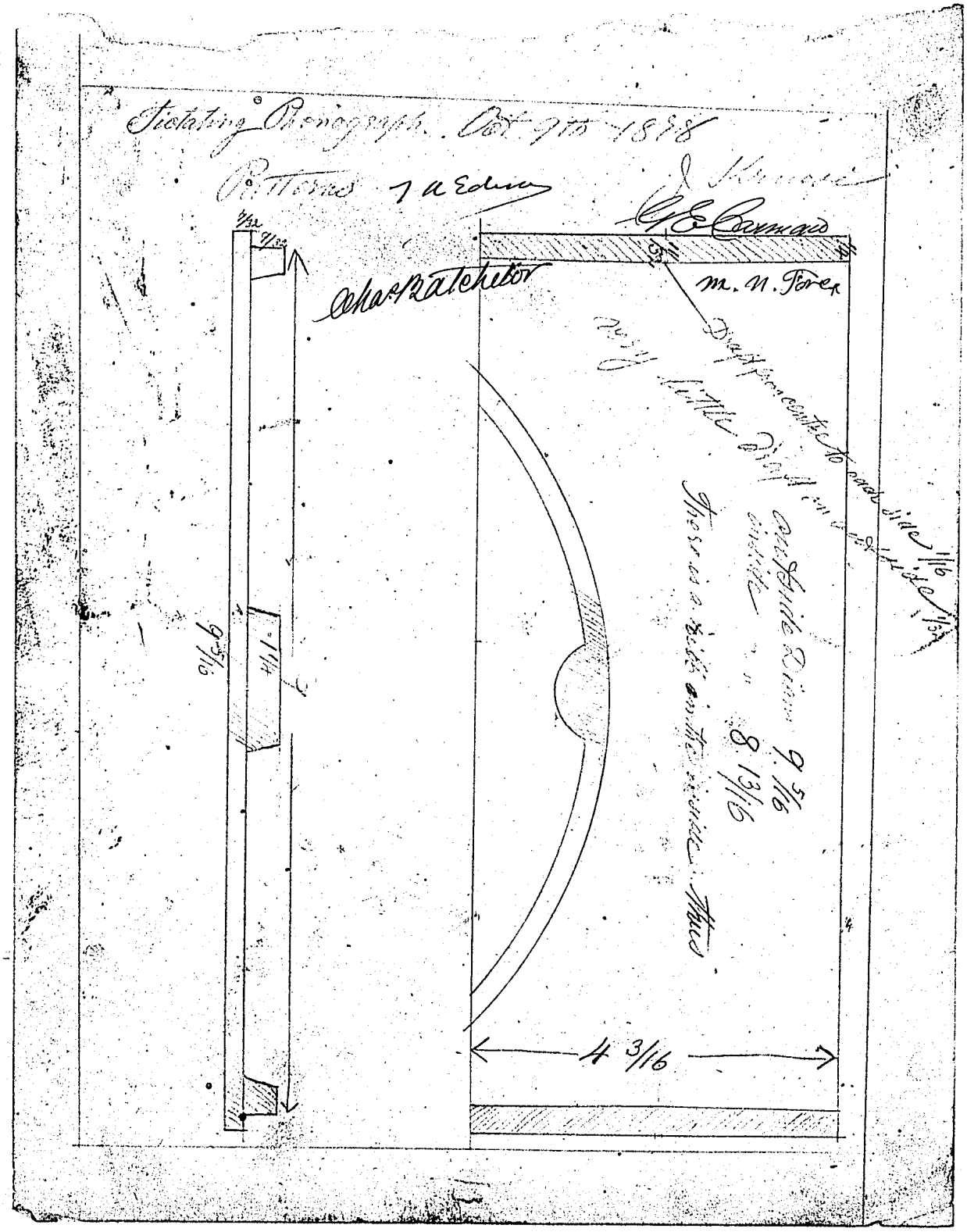
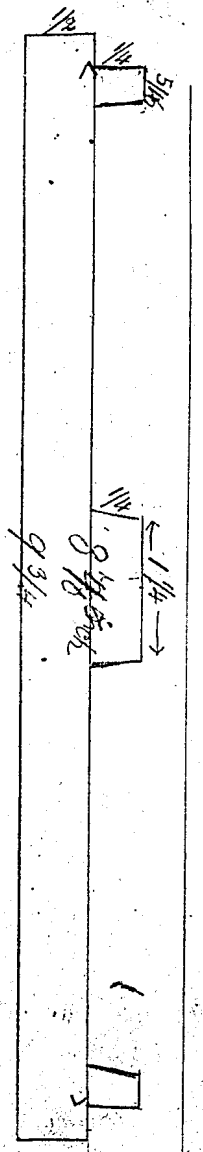
Notary Public.


Stenotype Phonograph. Oct 9th 1888
Patented
Edison
C. E. Barnard
m. n. Tore
Diagram
4 3/16

Distorting Phonograph October 9th 1878

J. Kruesi



Phonographs Oct. 17th 1878

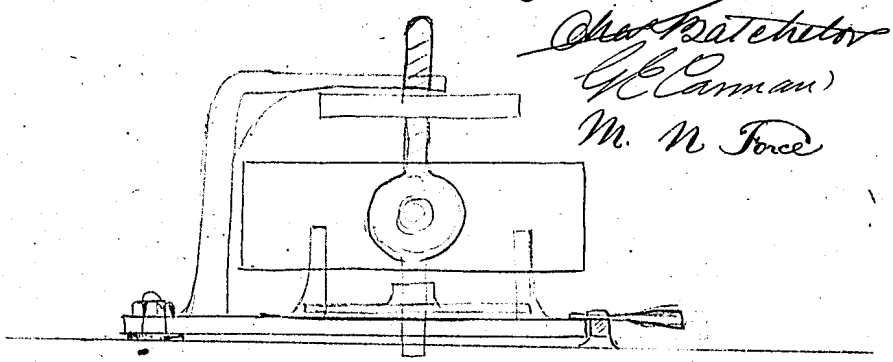
J. Kruesi

T A Edison

Chas Batchelor

G E Carman

M. N Force



128

Phonograph.

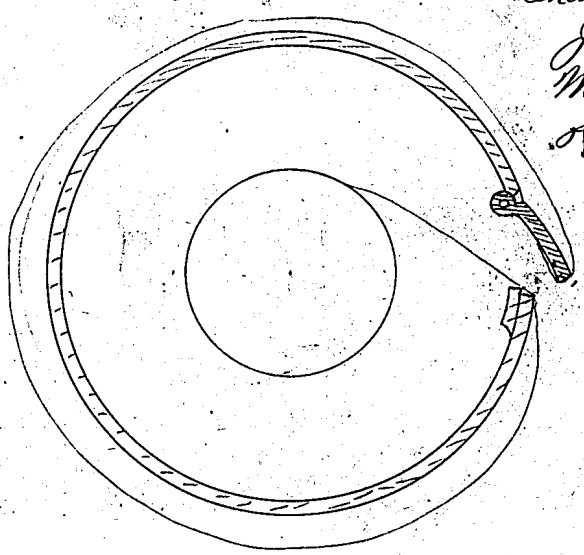
Oct 14th 1848.

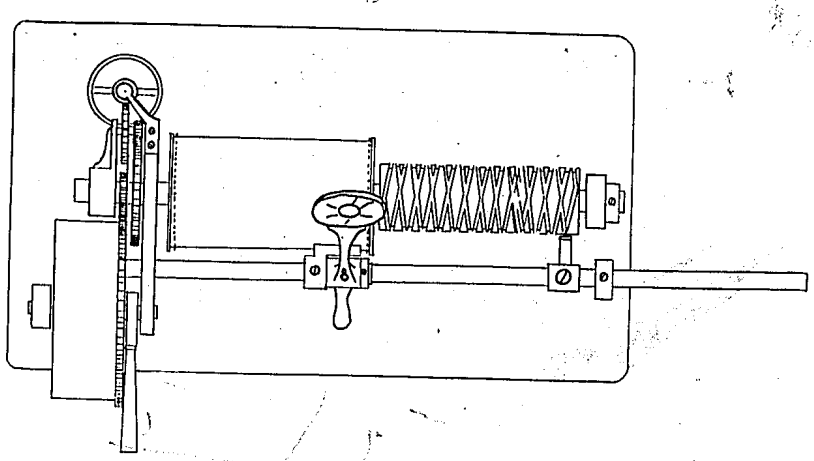
Chas Batchelor

J Thwaites

M. N Force

Thos. A Edison





179

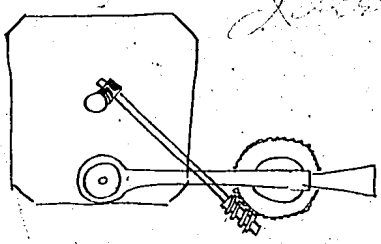
Phin

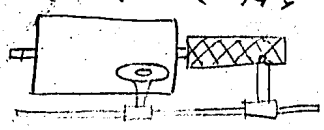
Nov 30 1878

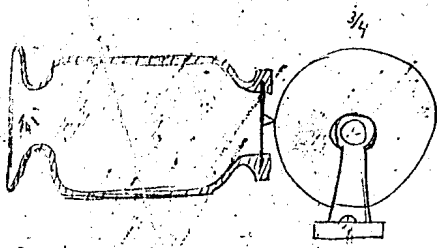
Trucci Mata small model

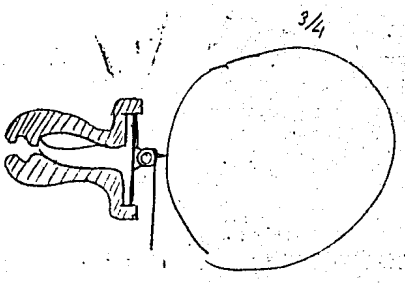
Made by J. F. Otto,

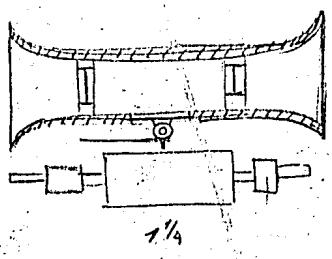
Lithographed

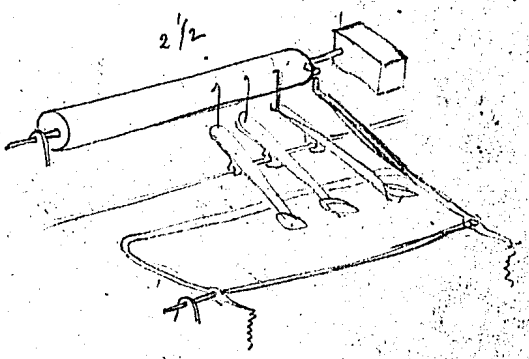




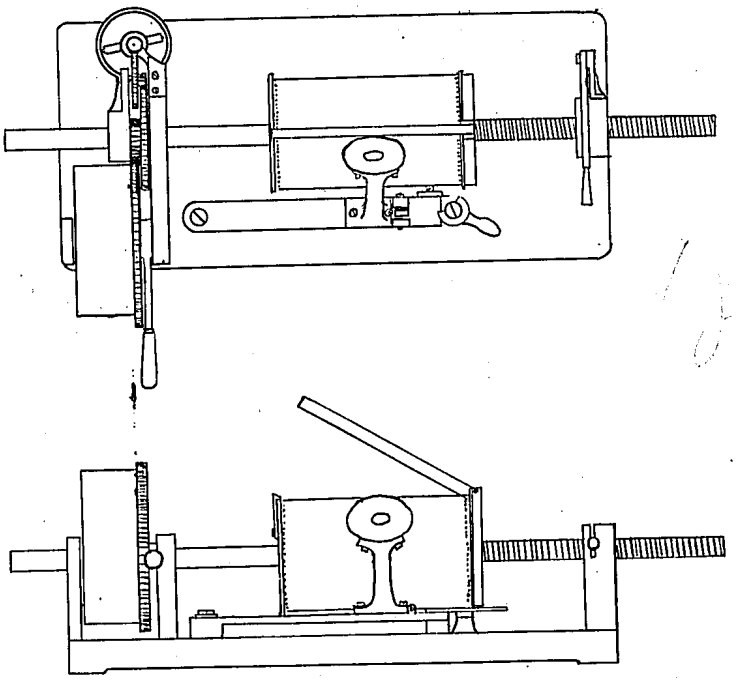


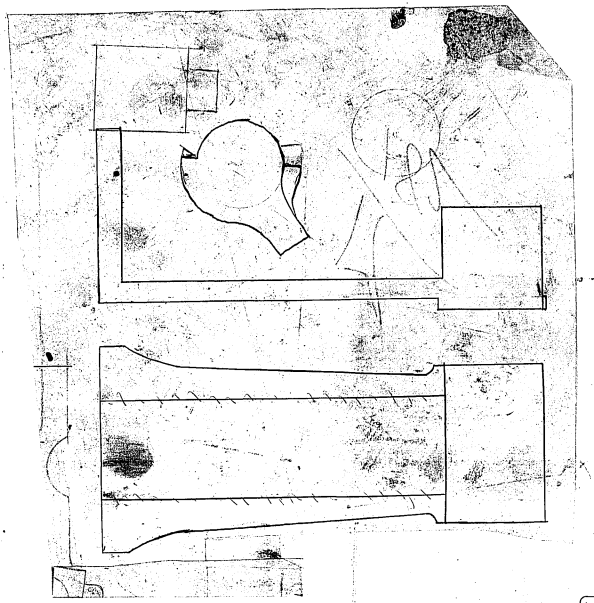




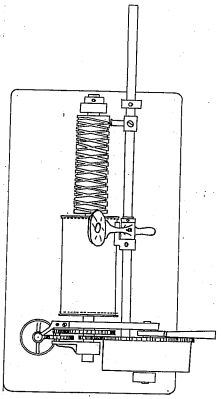


180





182



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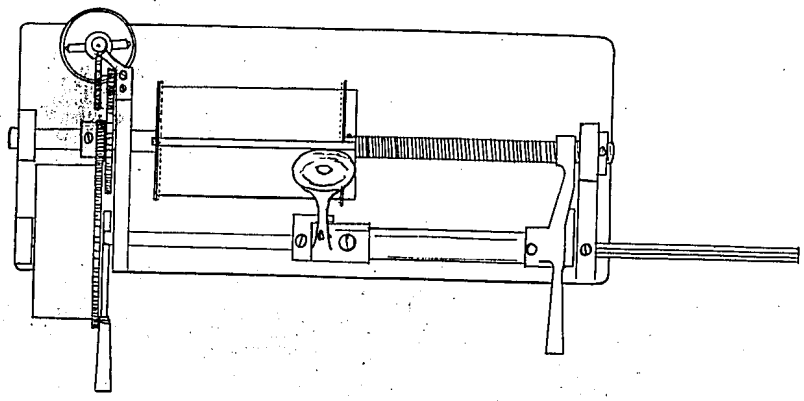

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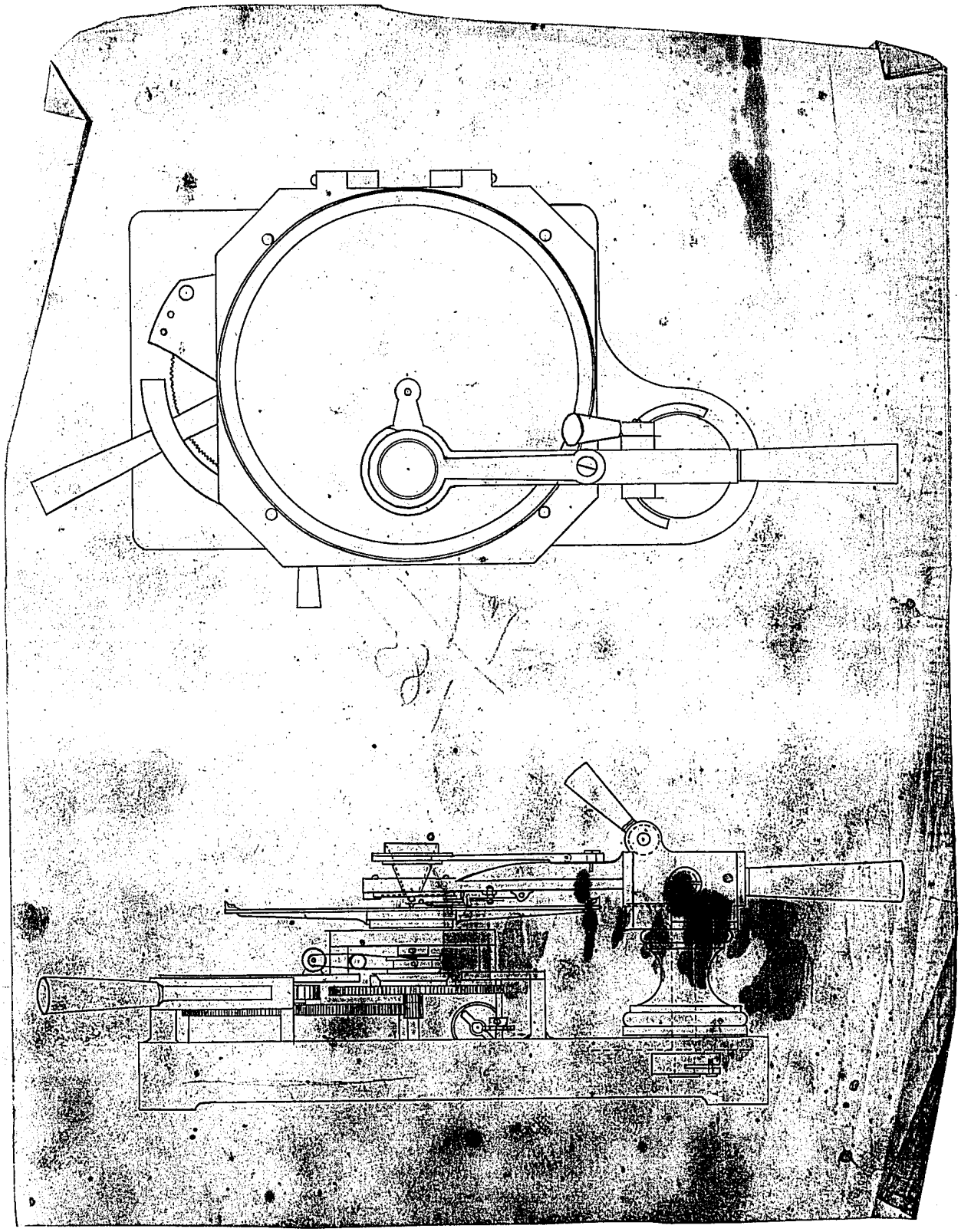

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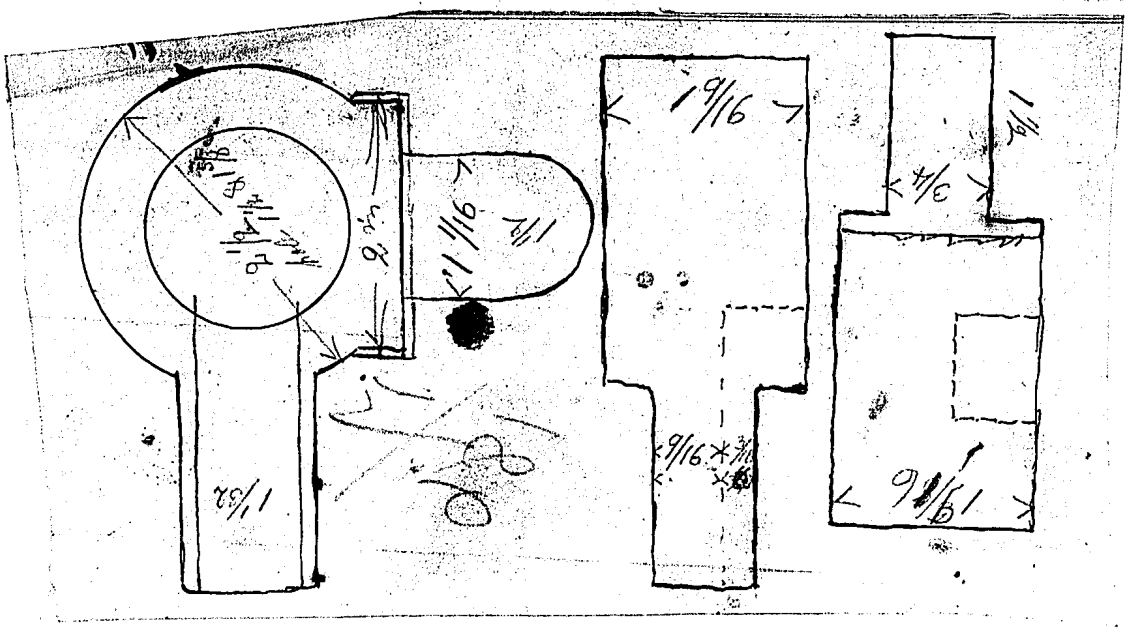

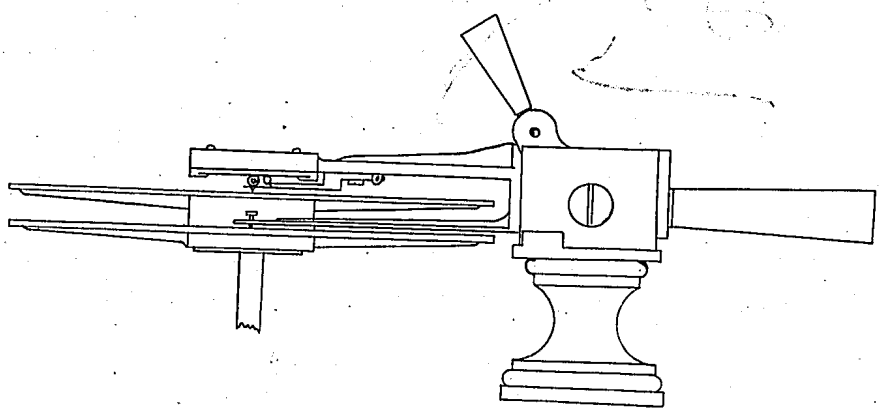

187